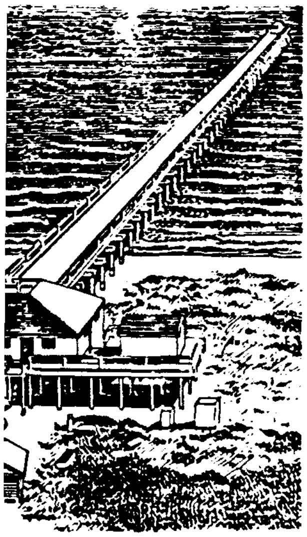
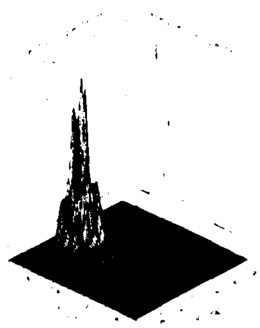
US Army Corps of Engineers





TECHNICAL REPORT CERC-91-15

(2)

WAVE TRANSFORMATION OVER A GENERALIZED BEACH

Volume II

APPENDICES B THROUGH I

by

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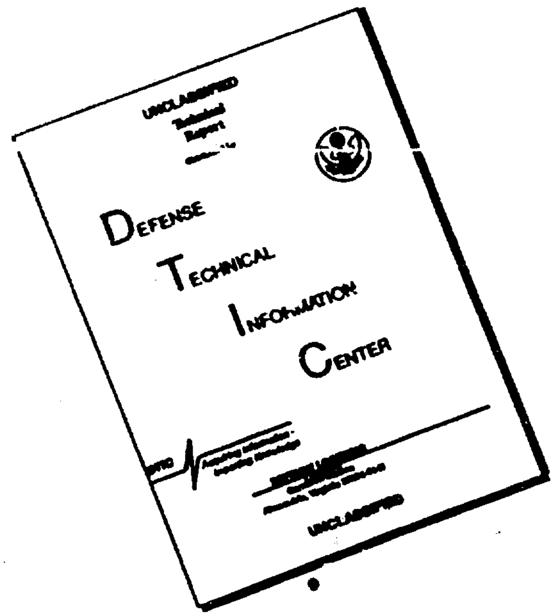
Under Nearshore Waves and Currents Work Unit 31762
Laboratory Simulation of Nearshore Waves Work Unit 31672
Wave Estimation for Design Work Unit 31592

DISCLAIMER NOTICE



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APPENDIX B: TEST DURATION RESULTS

MEASURED WAVE PARAMETERS FOR 400 WAVE DURATION

(a) Periods (Sec)

Test Case	OGA Gage Number 1	2	3	4	5	6	Ave.
S01	2.46	2.46	2.32	2.46	2.46	2.32	2.41
S09	2.63	2.24	2.34	2.49	2.49	2.29	2.41
S13	2.48	2.36	2.48	2.36	2.36	2.48	2.42
S21	2.33	2.46	2.48	2.46	2.46	2.39	2.43
S25	2.49	2.49	2.34	2.49	2.50	2.49	2.47
S33	2.53	2.40	2.40	2.39	2.39	2.57	2.45
S37	1.21	1.21	1.32	1.32	1.21	1.19	1.24
S45	1.16	1.23	1.22	1.23	1.27	1.18	1.21
S49	1.19	1.20	1.24	1.24	1.24	1.24	1.23
S57	1.25	1.19	1.22	1.24	1.24	1.27	1.23
S61	1.29	1.17	1.17	1.17	1.17	1.17	1.19
S69	1.24	1.21	1.19	1.30	1.19	1.24	1.23

(b) Heights (Ft)

Test Case	OGA Gage Number 1	2	3	4	5	6	Ave.
S01	0.45	0.38	0.40	0.42	0.39	0.43	0.41
S09	0.43	0.41	0.40	0.41	0.40	0.38	0.41
S13	0.44	0.41	0.42	0.36	0.37	0.43	0.40
S21	0.42	0.40	0.39	0.40	0.40	0.39	0.40
S25	0.39	0.39	0.35	0.38	0.39	0.38	0.38
S33	0.40	0.38	0.40	0.37	0.37	0.37	0.38
S37	0.30	0.31	0.32	0.33	0.32	0.30	0.31
S45	0.43	0.45	0.45	0.45	0.43	0.43	0.44
S49	0.45	0.43	0.43	0.41	0.42	0.41	0.43
S57	0.41	0.39	0.40	0.41	0.41	0.39	0.40
S61	0.35	0.36	0.34	0.38	0.38	0.39	0.36
S69	0.40	0.38	0 40	0.39	0.39	0.38	0.39

MEASURED WAVE PARAMETERS FOR 200 WAVE DURATION

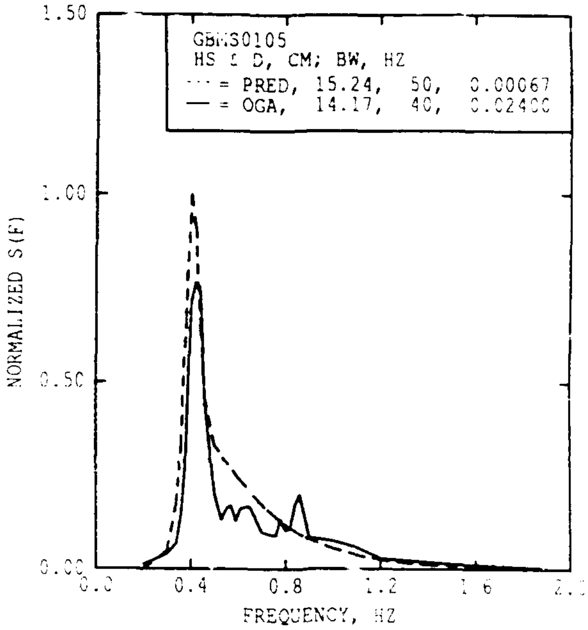
(a) Periods (Sec)

Test Case	OGA Gage Number 1	2	3	4	5	6	Ave.
S01	2.30	2.30	2.30	2.30	2.30	2.30	2.30
S09	2.38	2.33	2.28	2.33	2.33	2.45	2.35
S13	2.33	2.33	2.55	2.33	2.33	2.55	2.40
S21	2.46	2.32	2.33	2.50	2.42	2.42	2.41
S25	2.35	2.35	2.35	2.55	2.55	2.35	2.42
S33	2.51	2.20	2.25	2.36	2.42	2.56	2.38
S37	1.28	1.28	1.30	1.30	1.24	1.18	1.26
S45	1.21	1.20	1.23	1.24	1.27	1.20	1.23
S49	1.19	1.19	1.24	1.29	1.24	1.24	1.23
S57	1.21	1.23	1.20	1.24	1.26	1.29	1.24
S61	1.20	1.23	1.20	1.20	1.23	1.20	1.21
S69	1.28	1.19	1.26	1.17	1.28	1.26	1.24

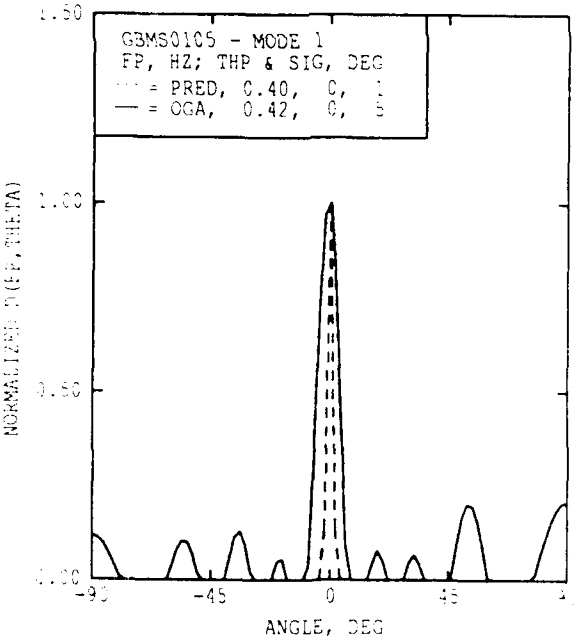
(b) Heights (Ft)

Test Case	OGA Gage Number 1	2	3	4	5	6	Ave.
S01	0.44	0.37	0.39	0.40	0.38	0.41	0.40
S09	0.43	0.41	0.41	0.42	0.41	0.38	0.41
S13	0.42	0.38	0.40	0.35	0.34	0.40	0.38
S21	0.41	0.41	0.41	0.39	0.40	0.41	0.40
S25	0.39	0.39	0.36	0.37	0.39	0.38	0.38
S33	0.40	0.39	0.41	0.36	0.35	0.37	0.38
S37	0.29	0.30	0.30	0.32	0.30	0.29	0.30
S45	0.42	0.46	0.47	0.44	0.42	0.42	0.44
S49	0.43	0.43	0.42	0.40	0.41	0.40	0.42
S57	0.39	0.40	0.39	0.41	0.40	0.38	0.40
S61	0.35	0.36	0.33	0.38	0.38	0.39	0.36
S69	0.40	0.37	0.40	0.40	0.38	0.38	0.39

APPENDIX C: MEASURED VERSUS PREDICTED DIRECTIONAL SPECTRA



A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = B



B) PRED. VS. OGA SPREADING & PEAK FREQ
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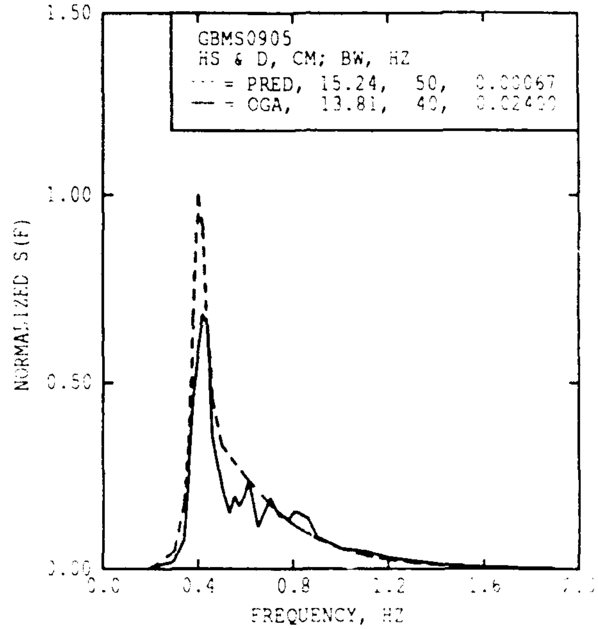

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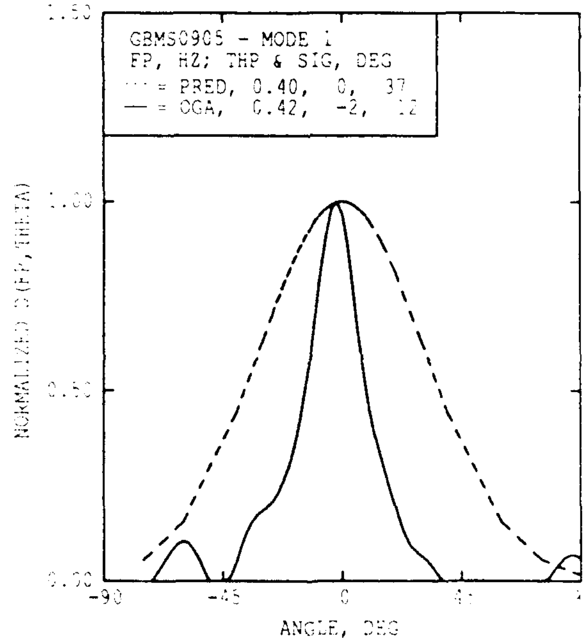
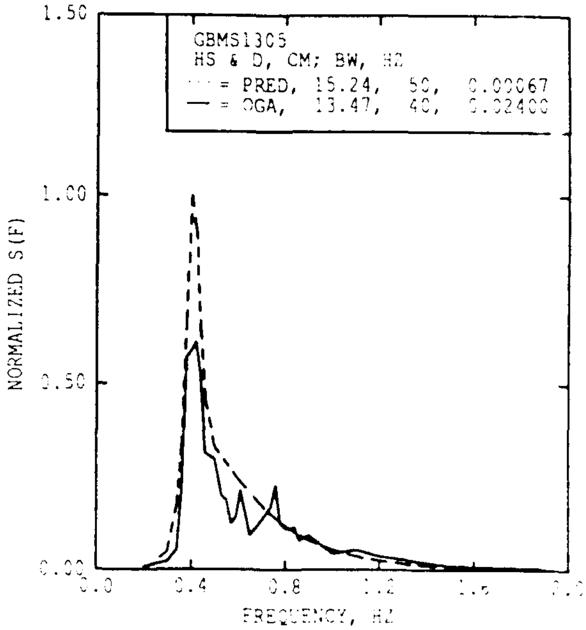


B. PRED. VS. OGA SPREADING



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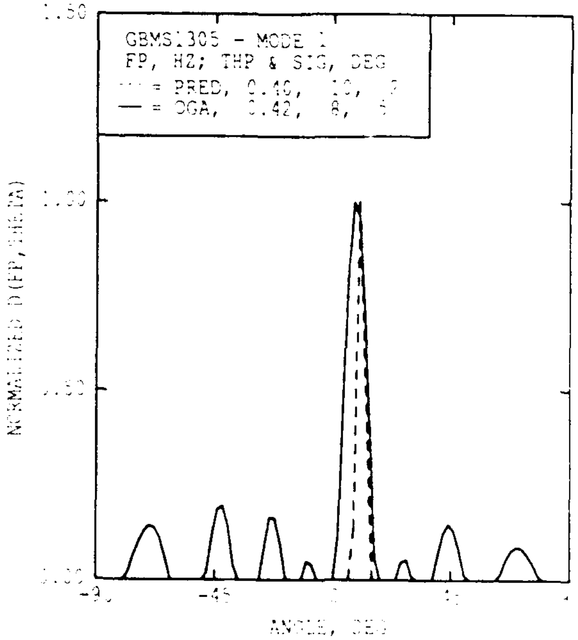

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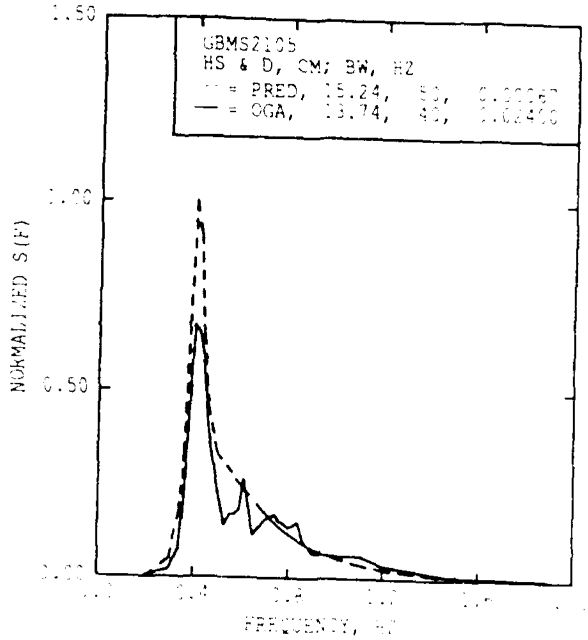

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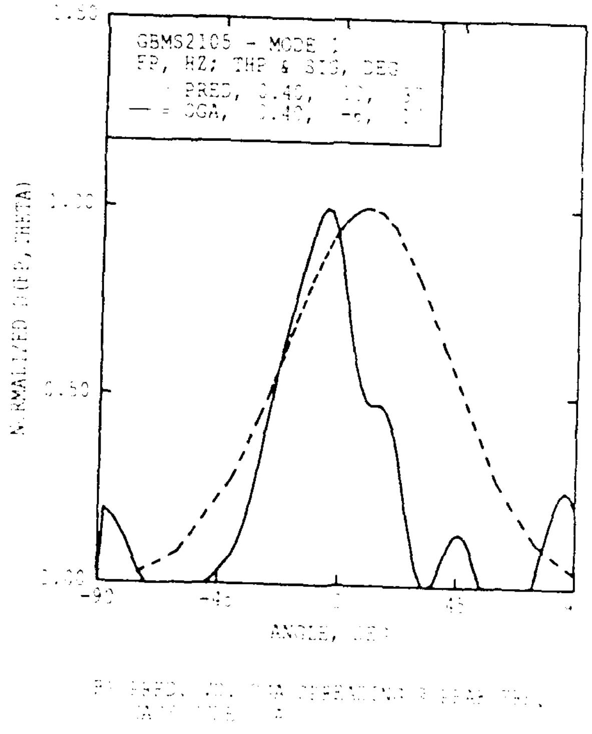

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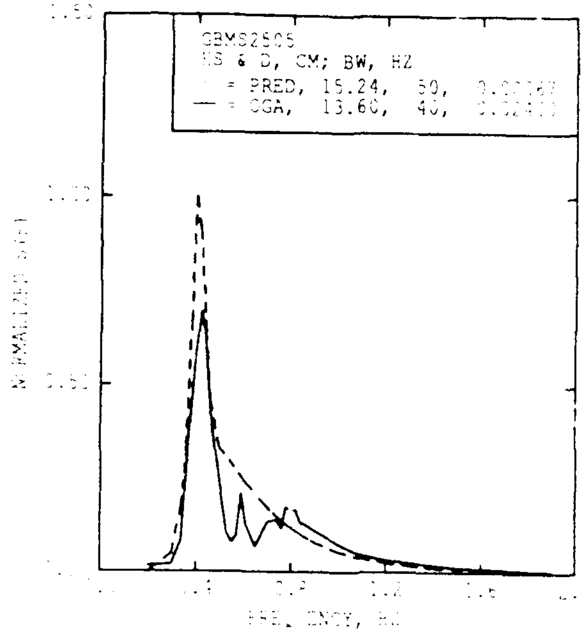
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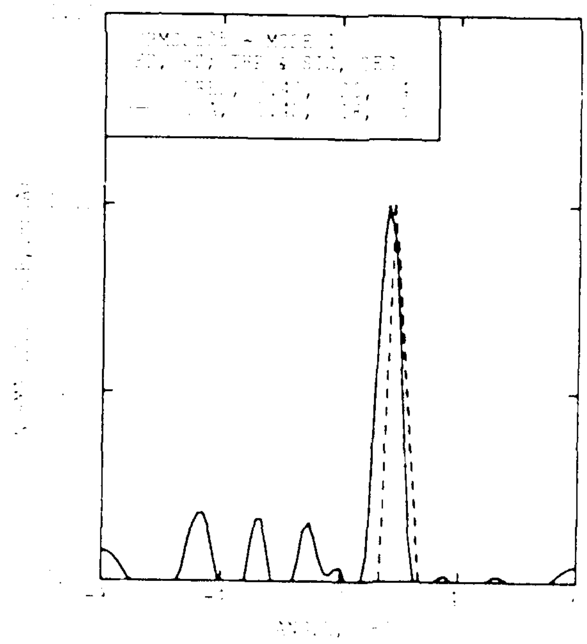
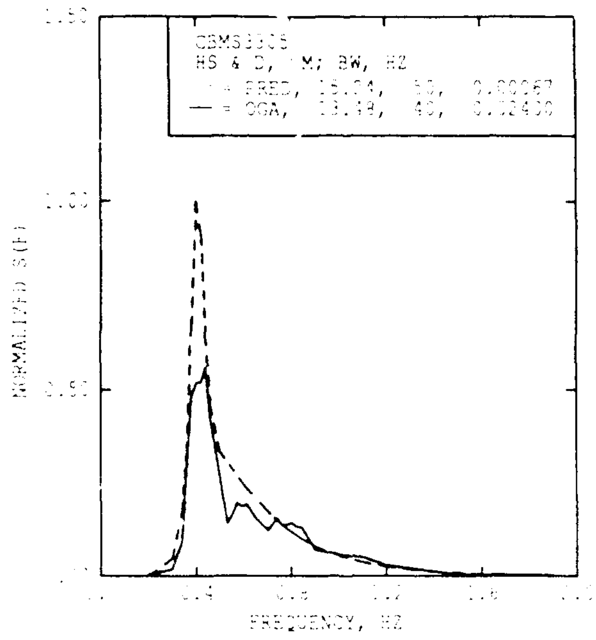
FREQUENCY, HZ





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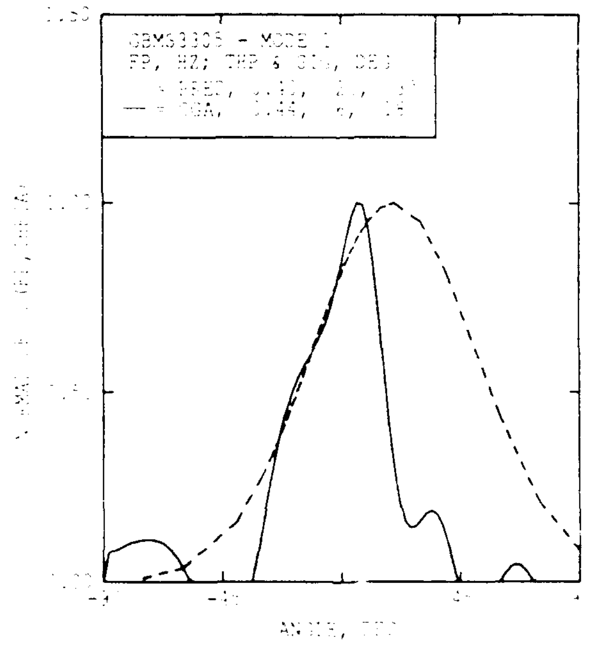

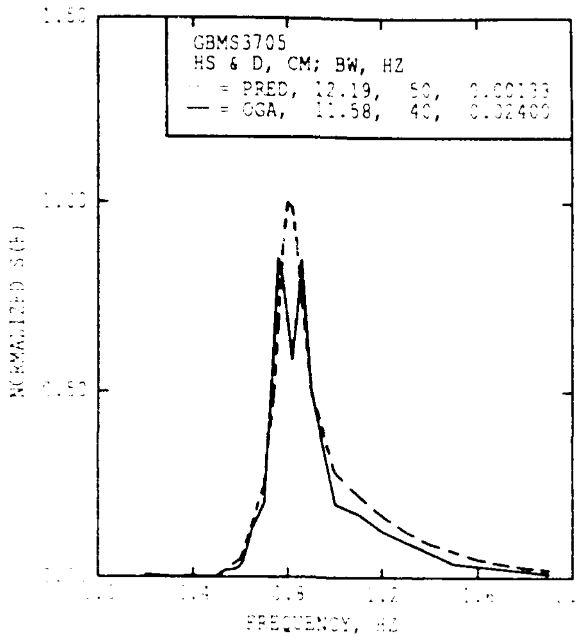
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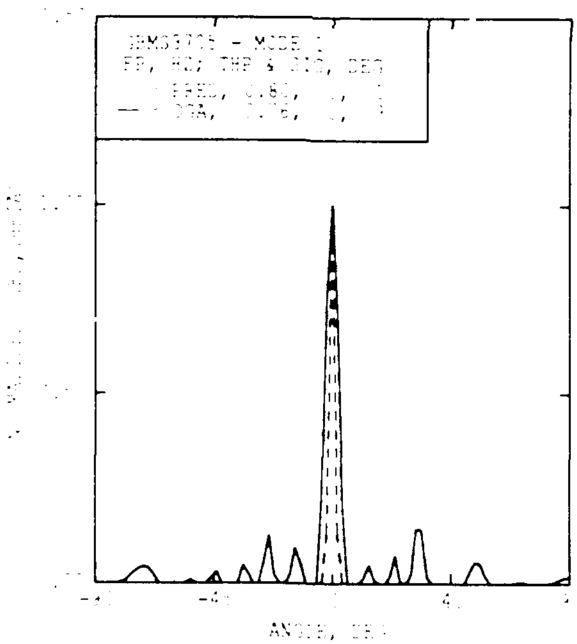
— = OGA, 11.58, 40,
NORMALIZED S(F)
FREQUENCY, HZ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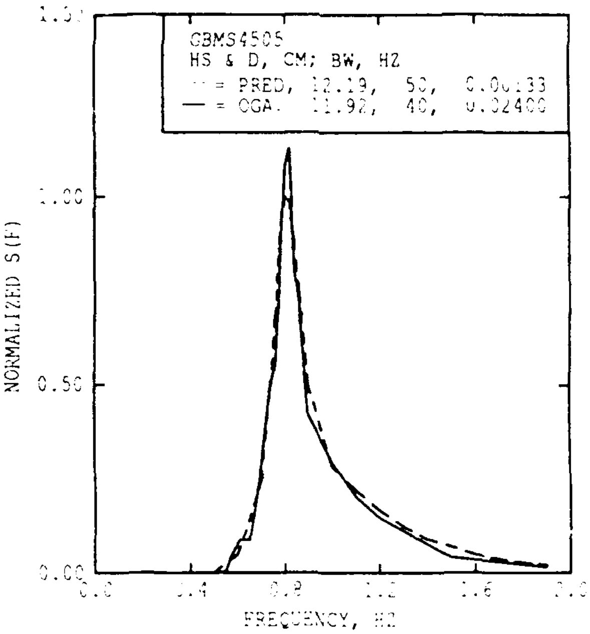
C9



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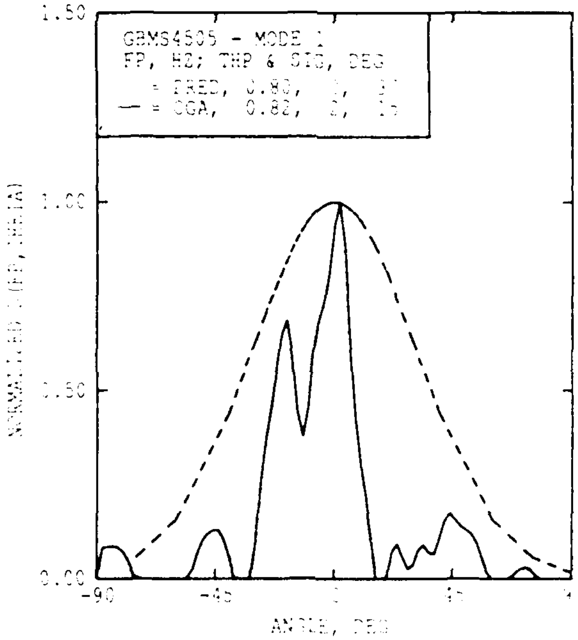
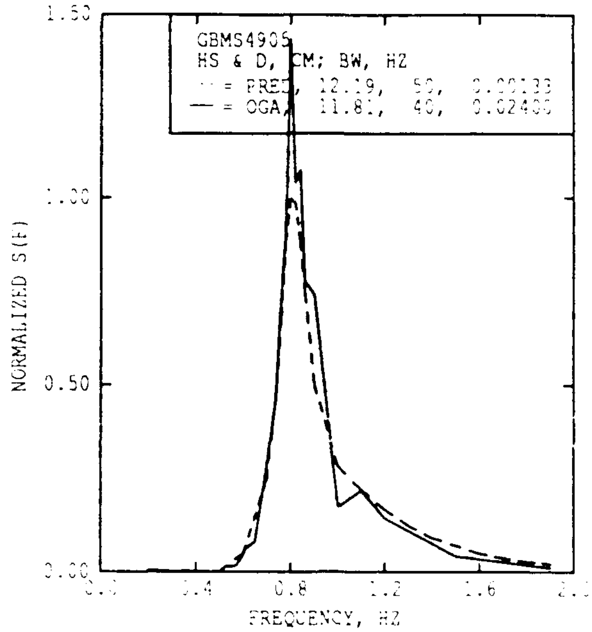


B) PRED. VS. [illegible]



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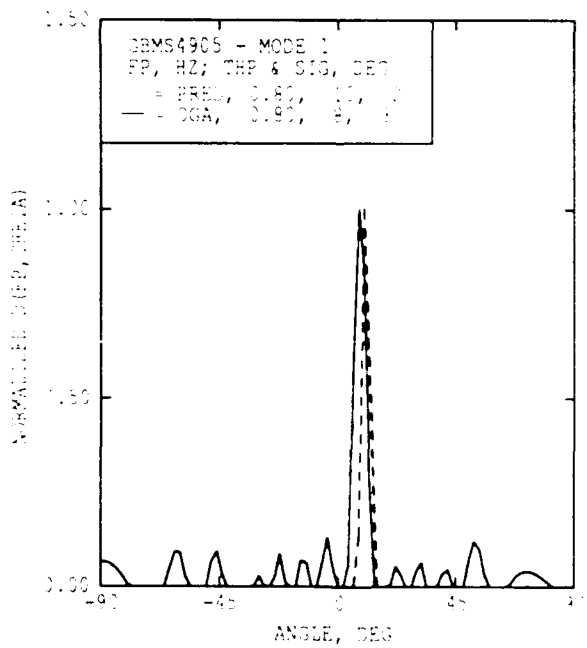
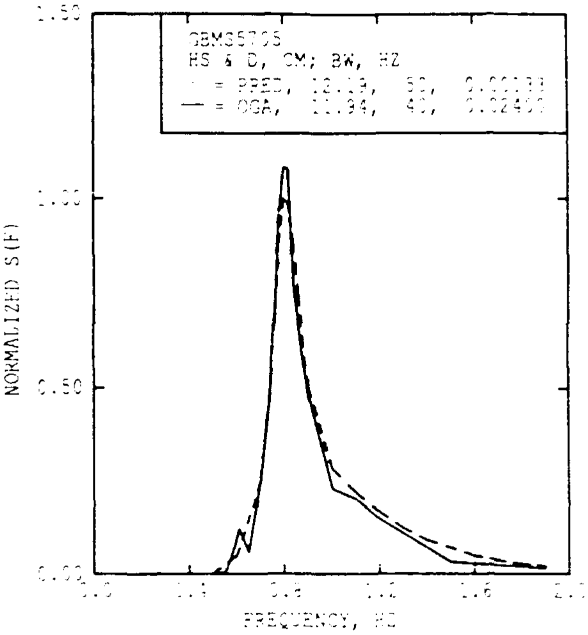
GAGE CODE - B



B) PRED. VS. OGA SPREADING & PEAK FREQ



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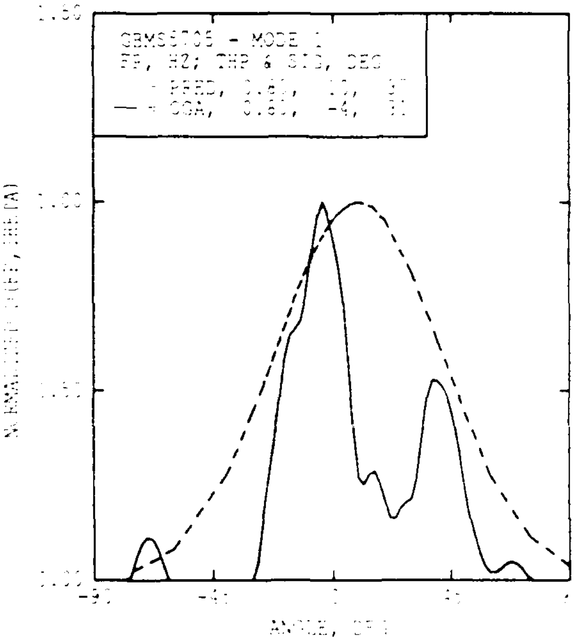

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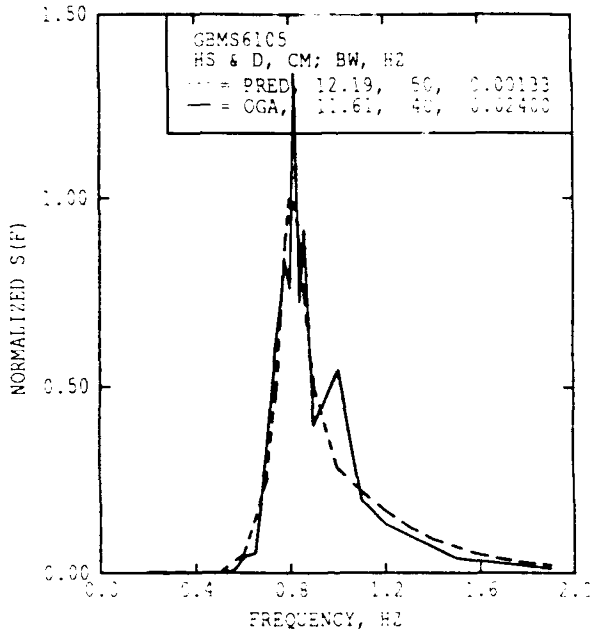

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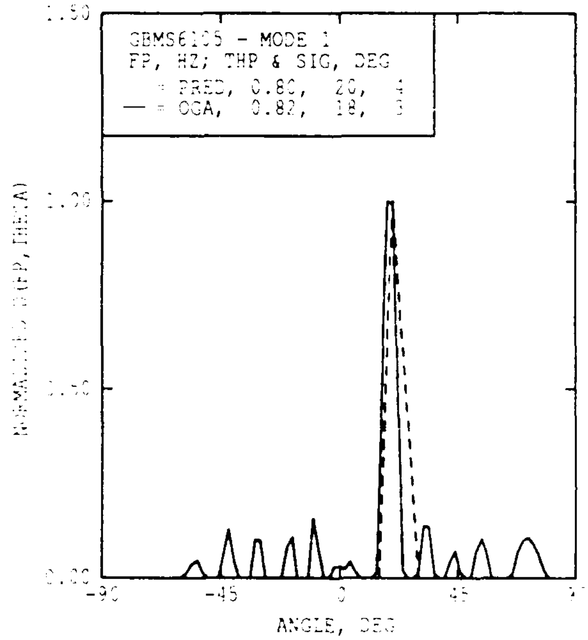

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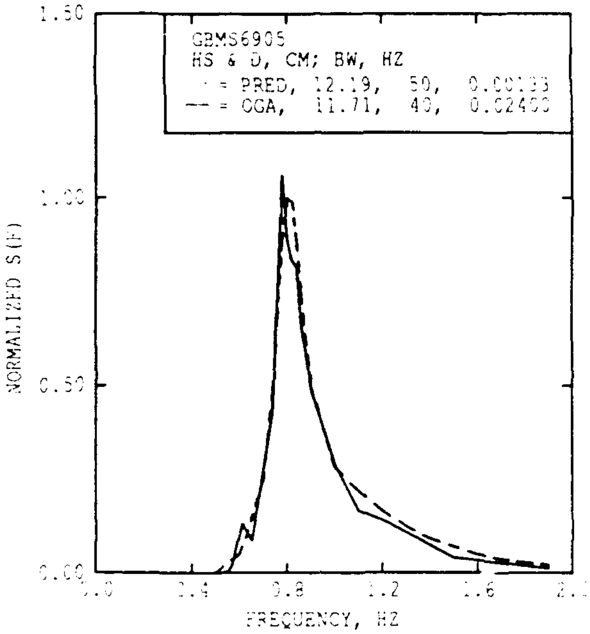

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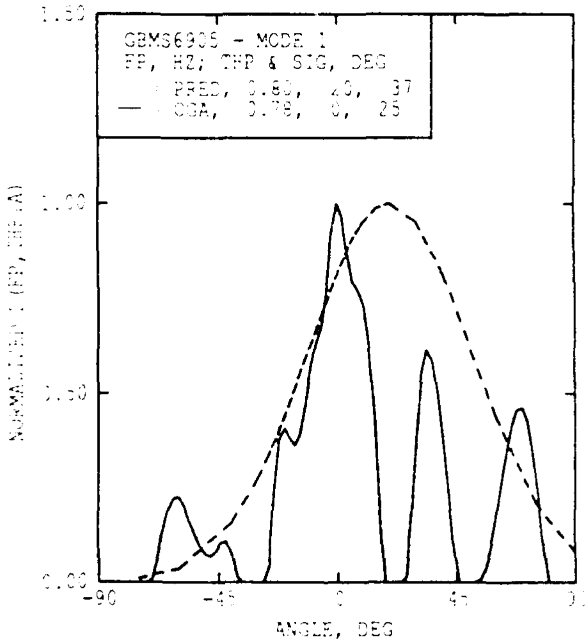

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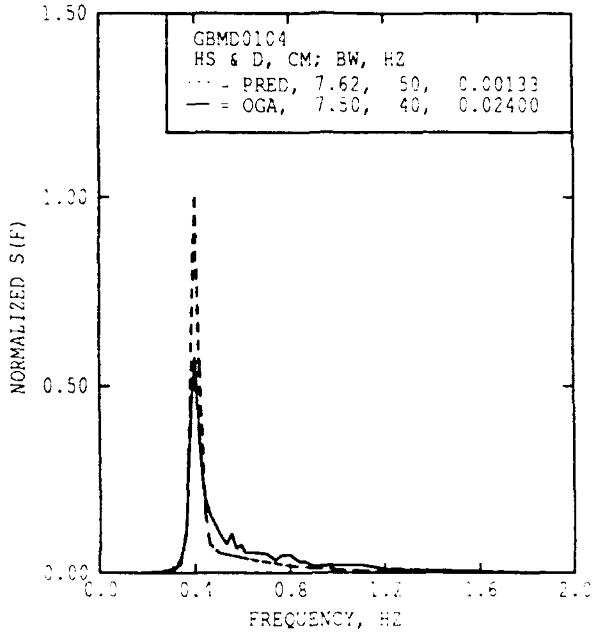

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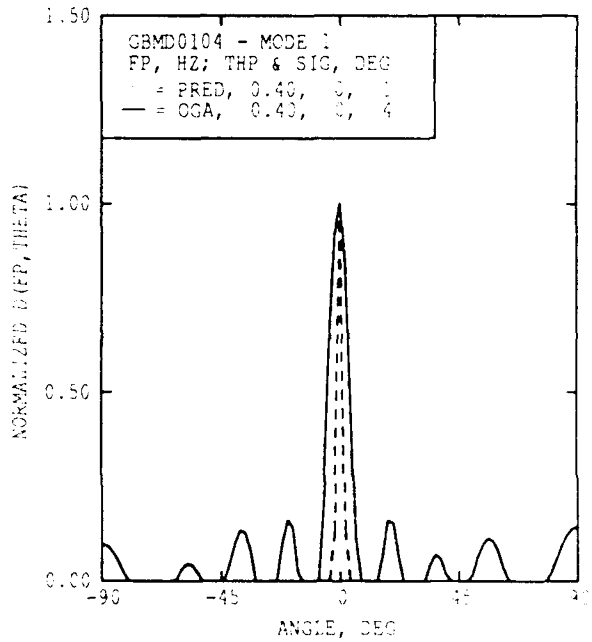

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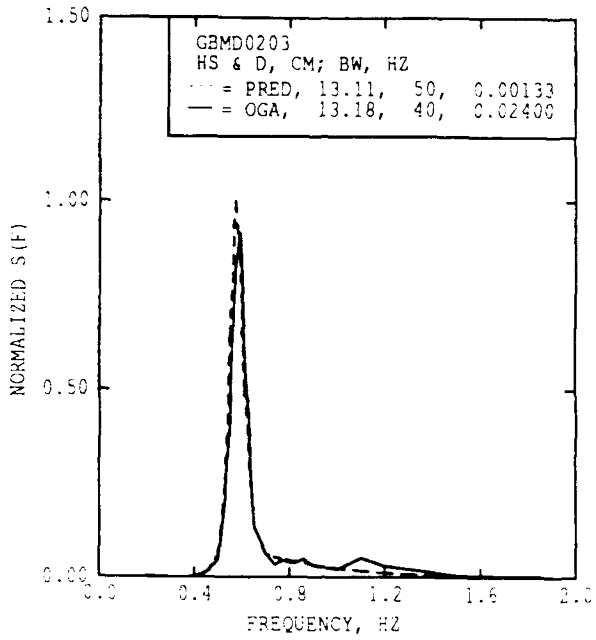

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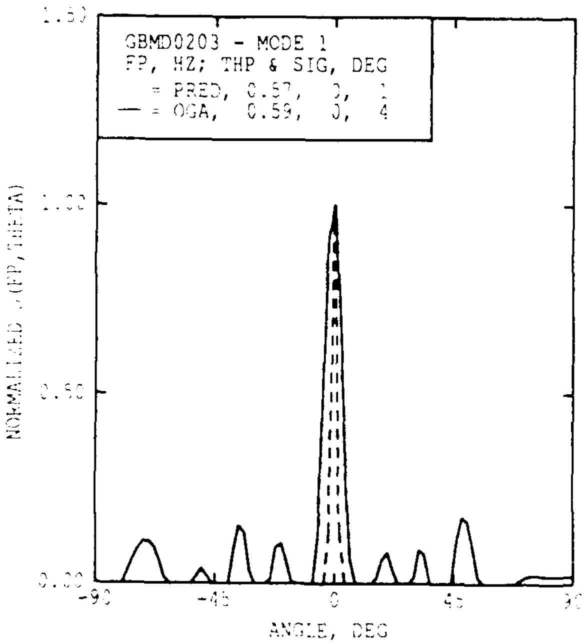

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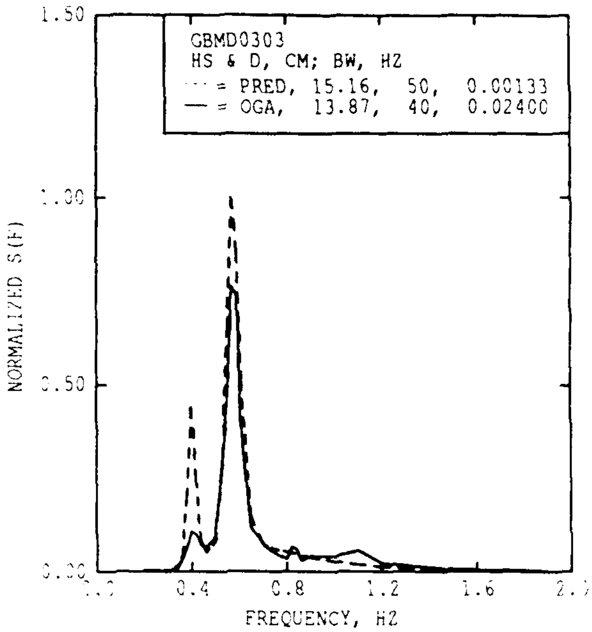

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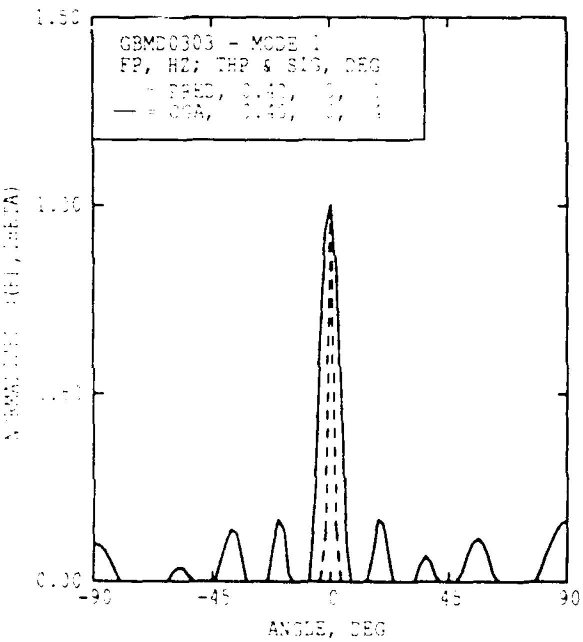

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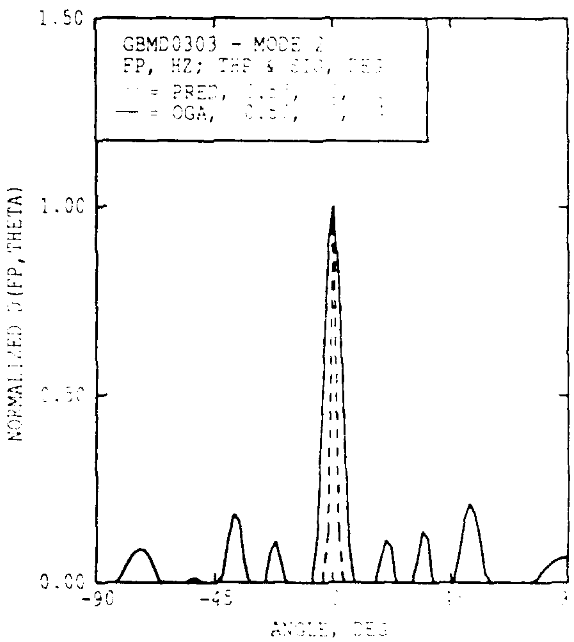

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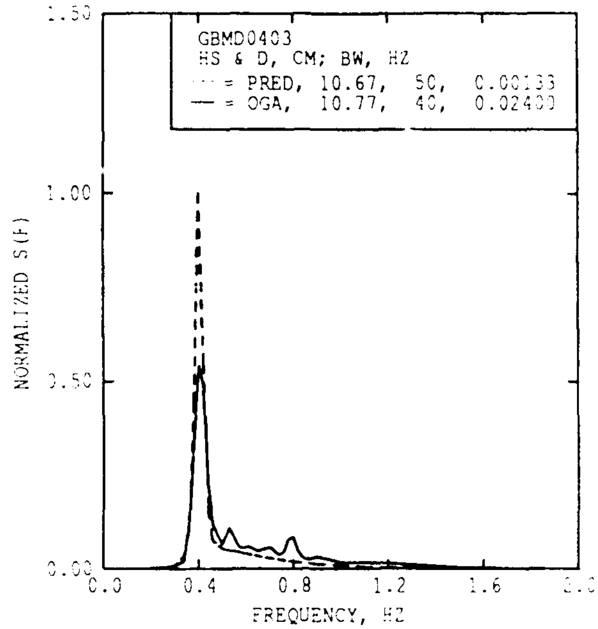

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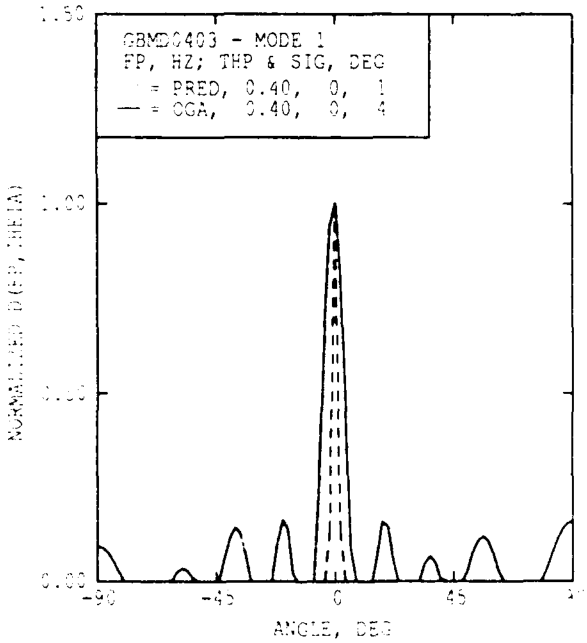

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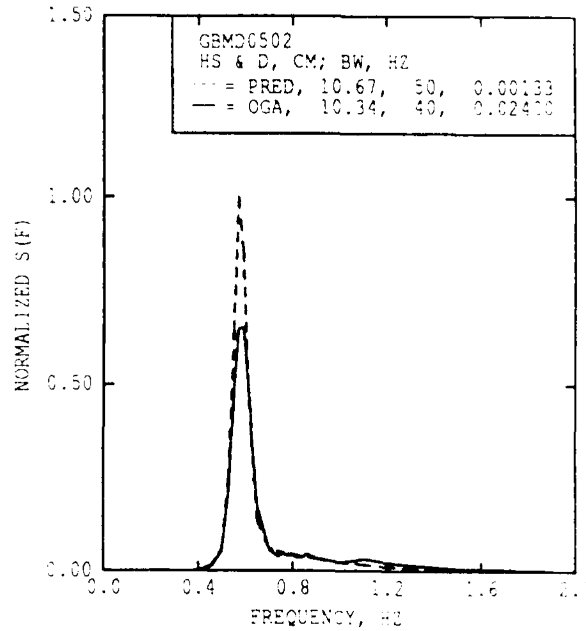

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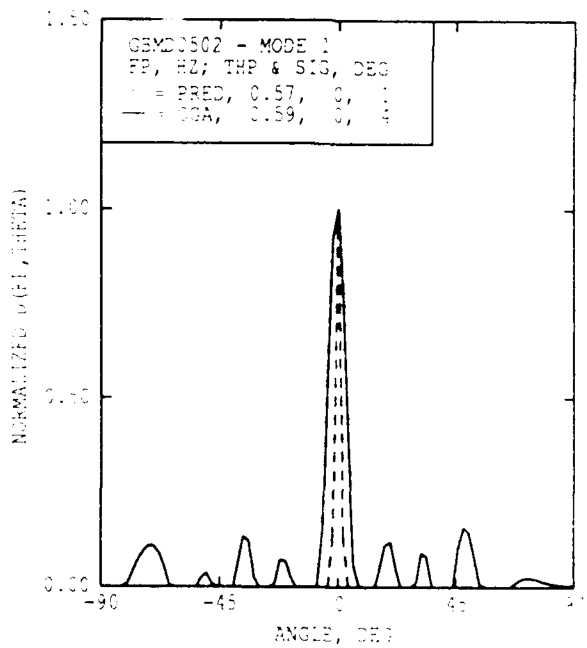

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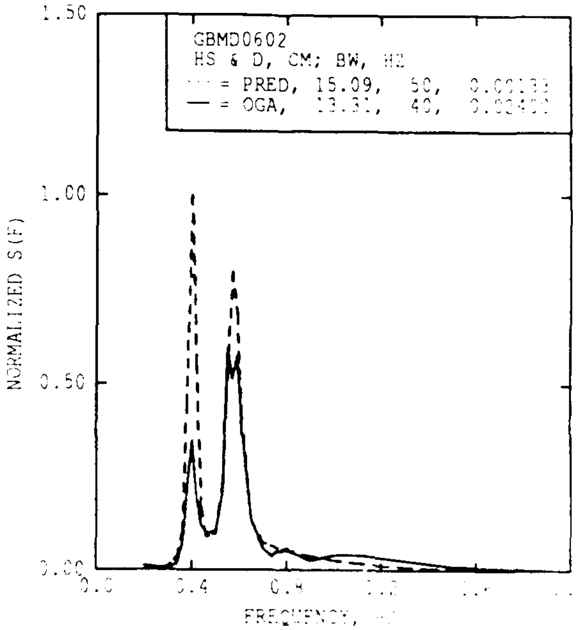
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1.00
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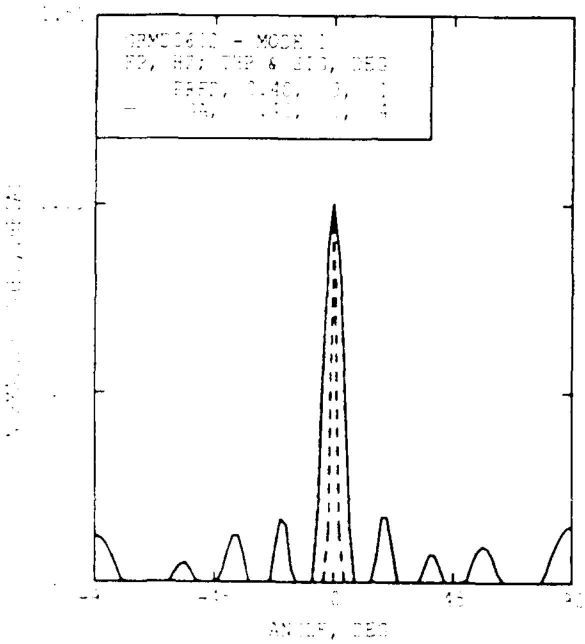

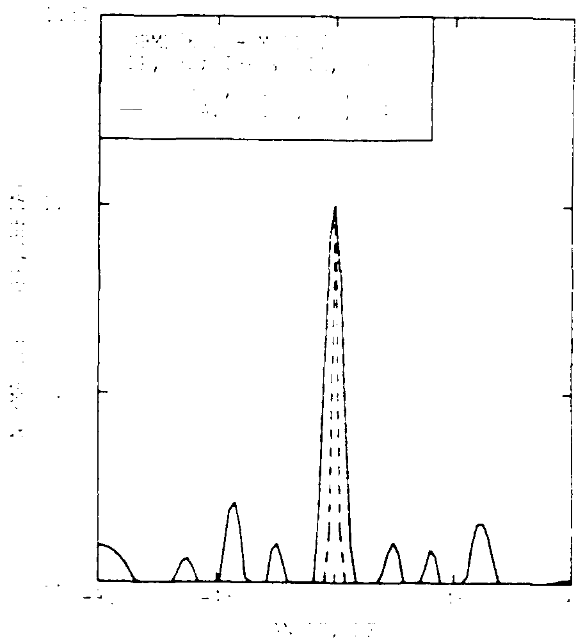

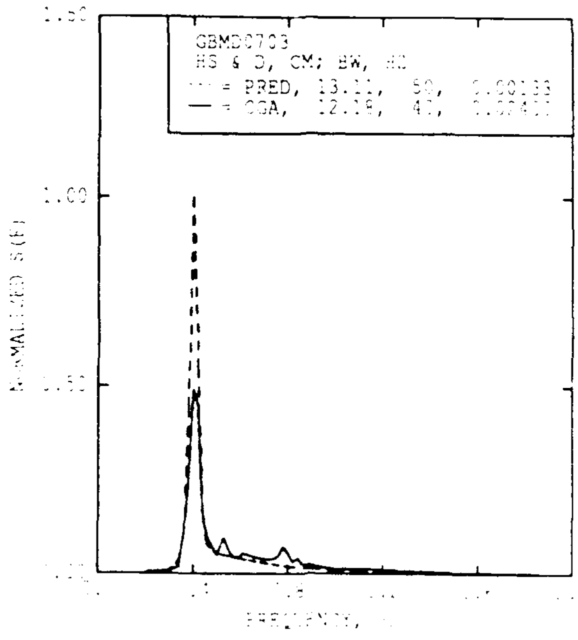

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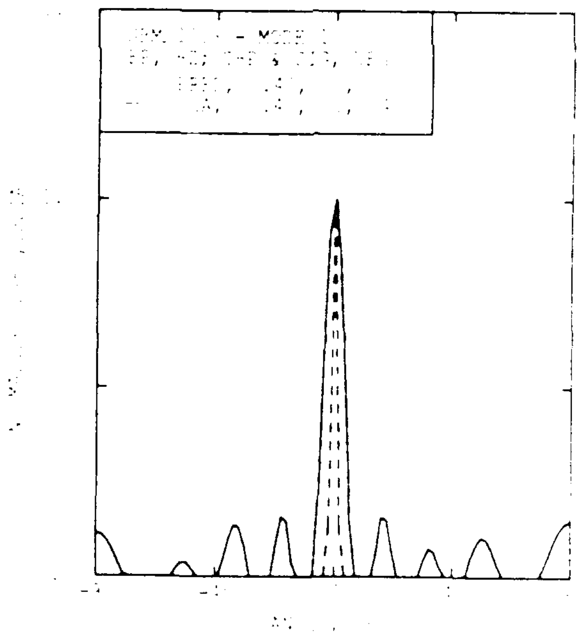
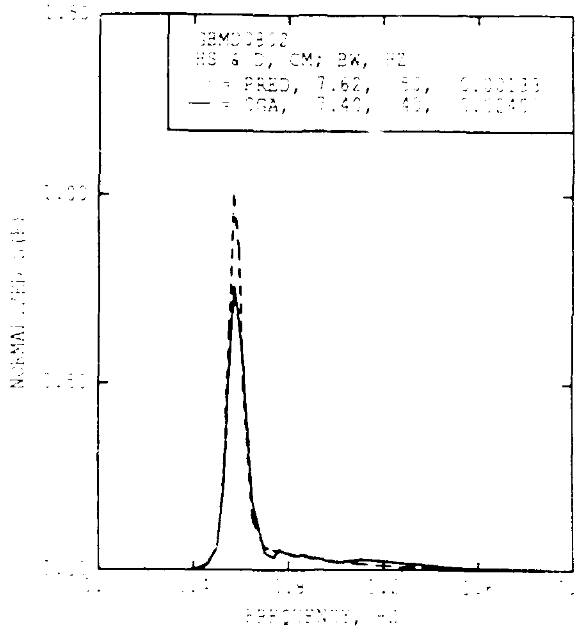


MODE



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NORMALIZED
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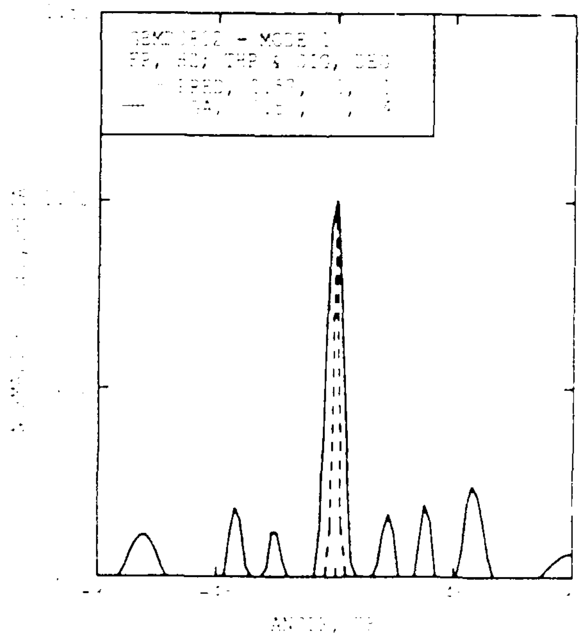

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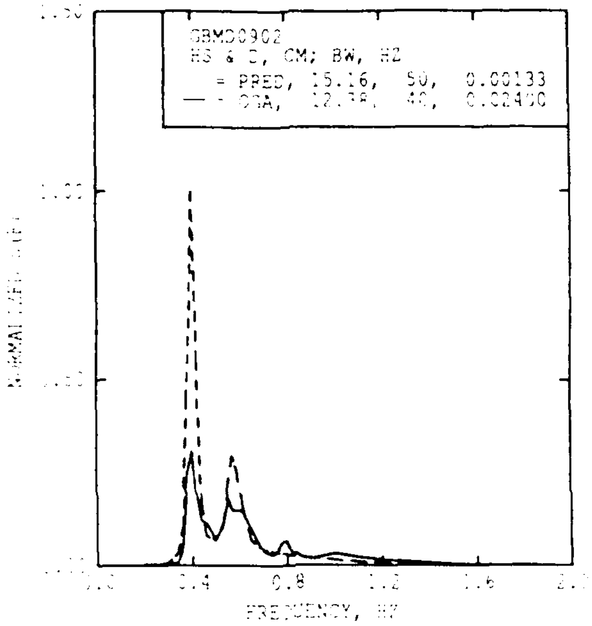
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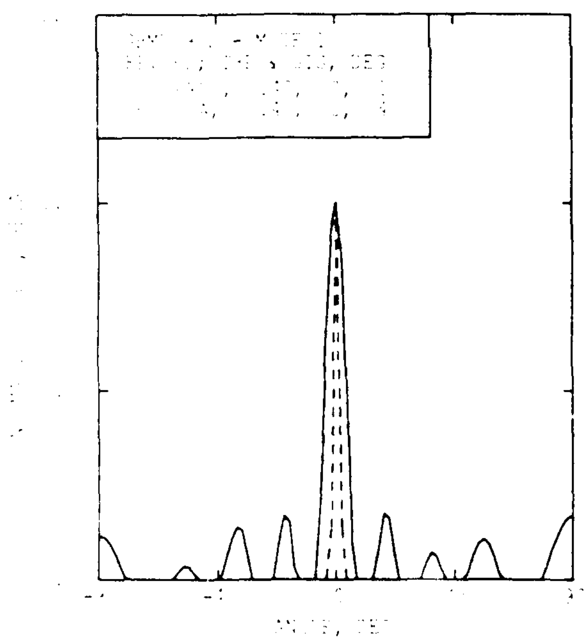
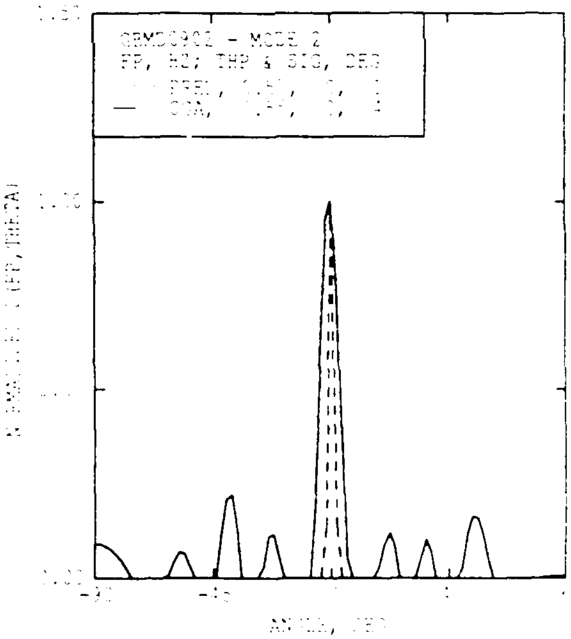
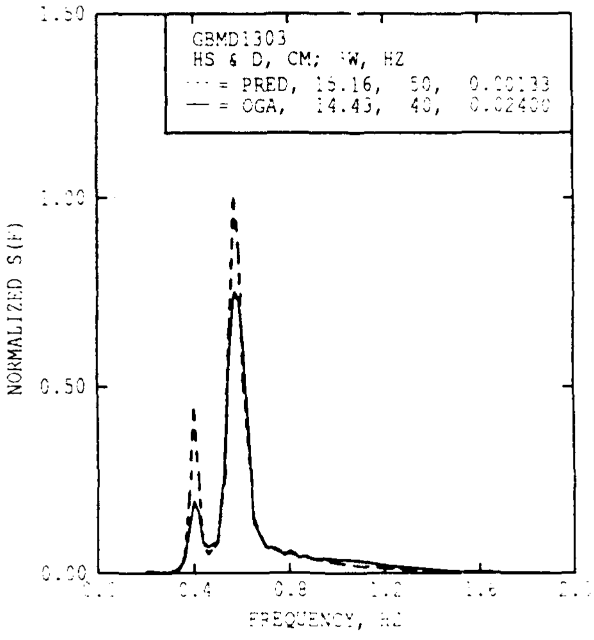
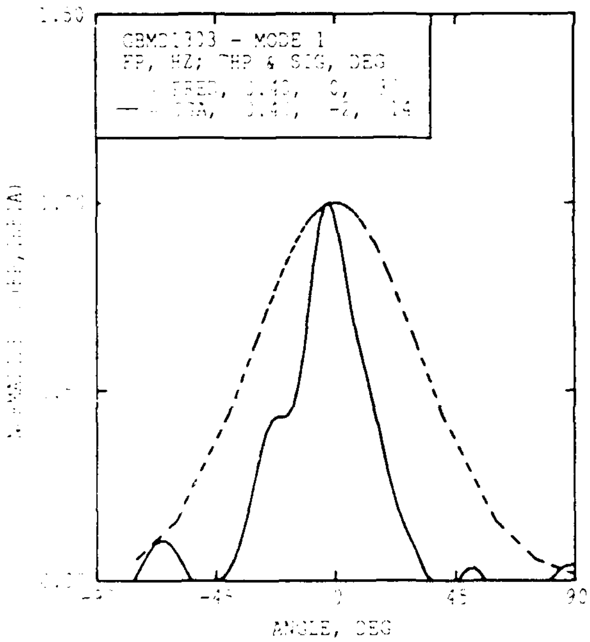
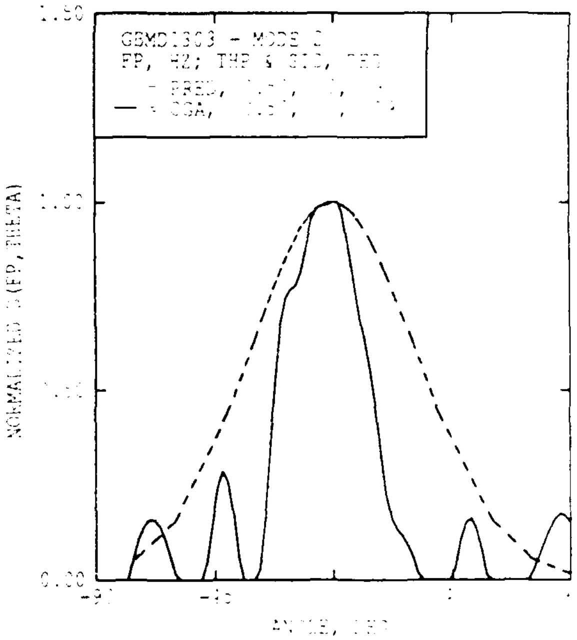


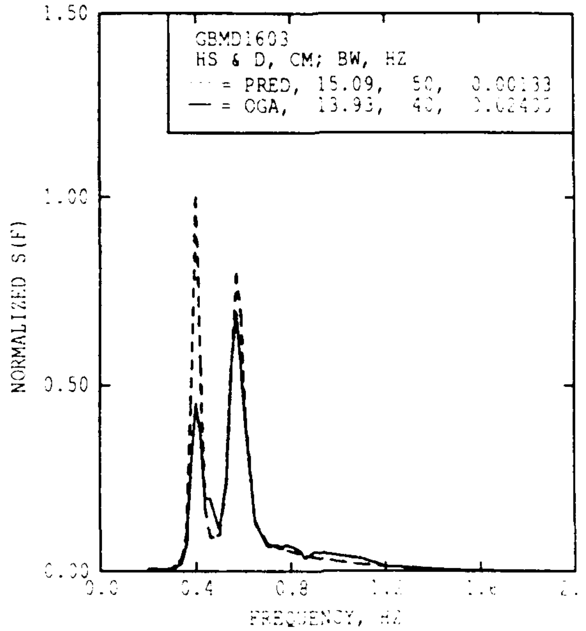

GBMD0902 - MODE 2
FP, HZ; THP & SIG, DEG



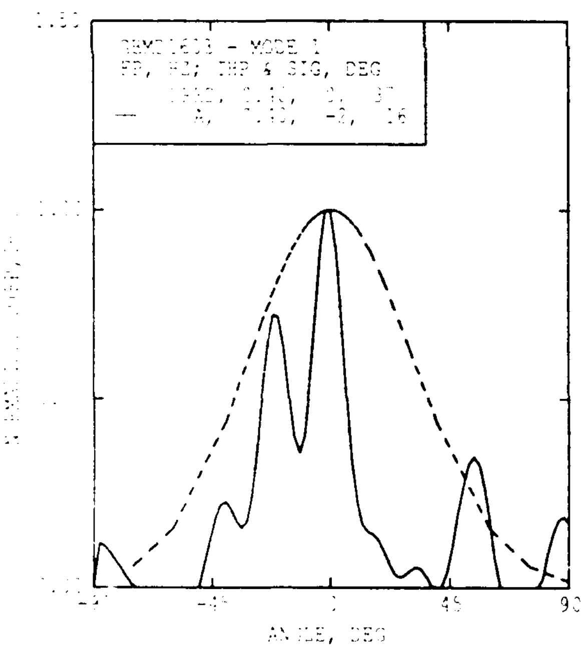
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = A

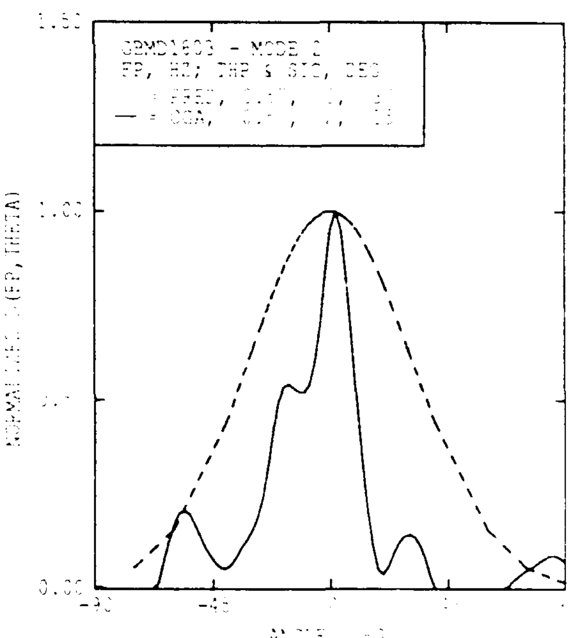


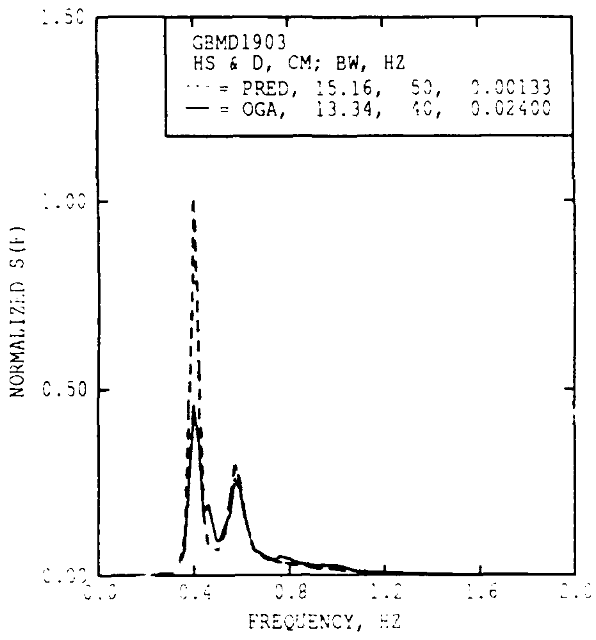




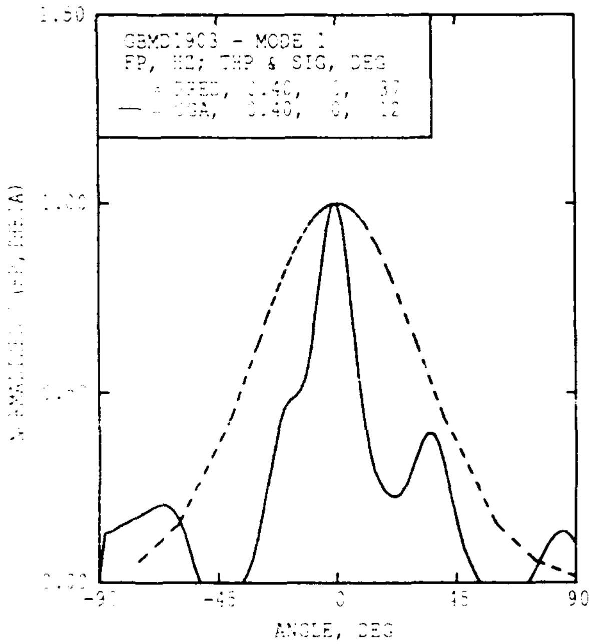
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = A



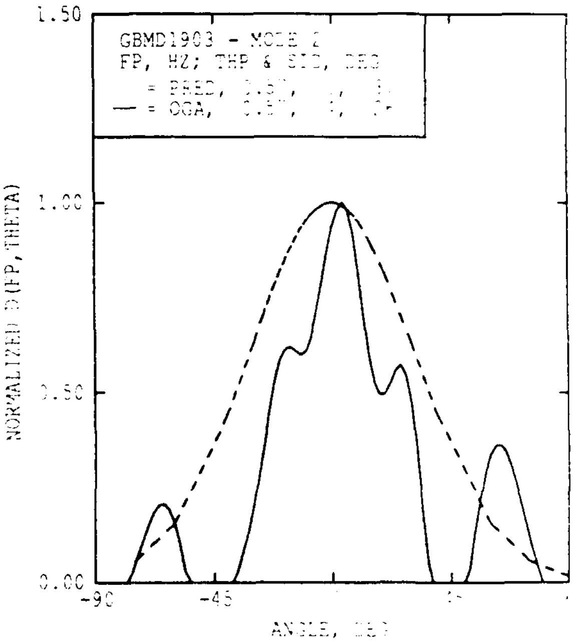




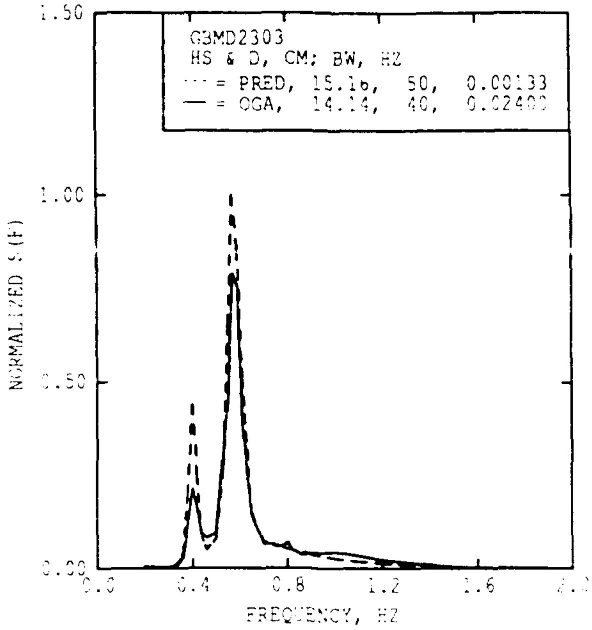
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = C



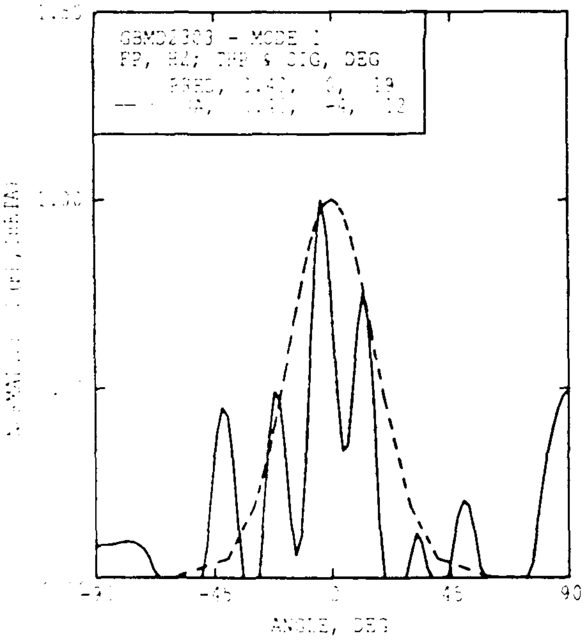
B) PRED. VS. OGA SPREADING @ PEAK FREQ
GAGE CODE = C



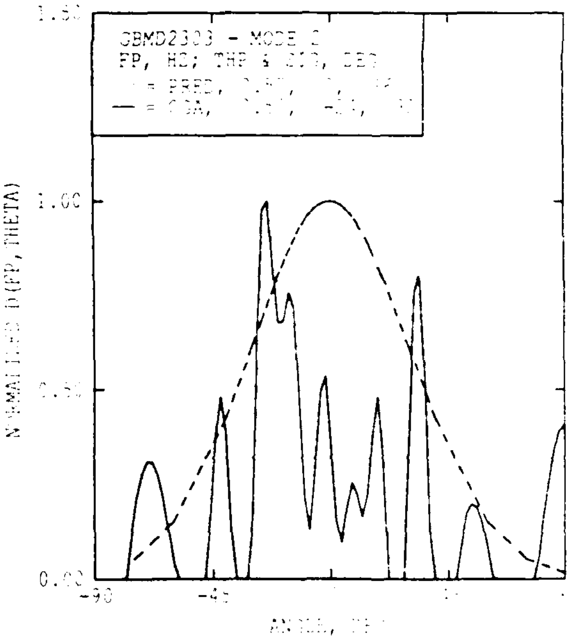
C) PRED. VS. OGA SPREADING



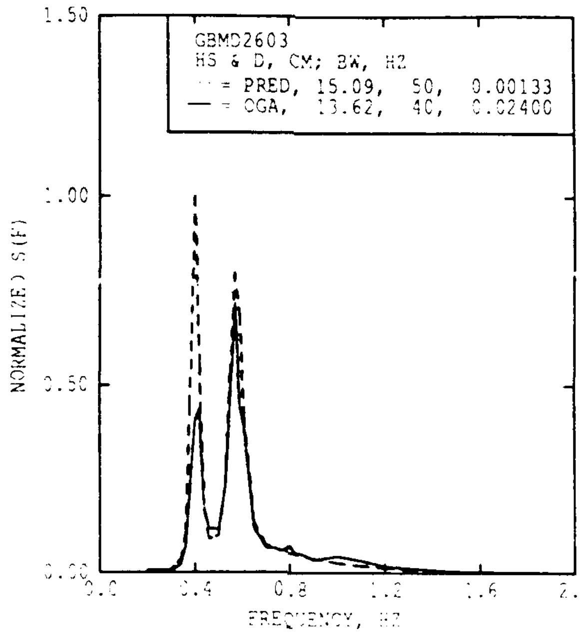
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = B



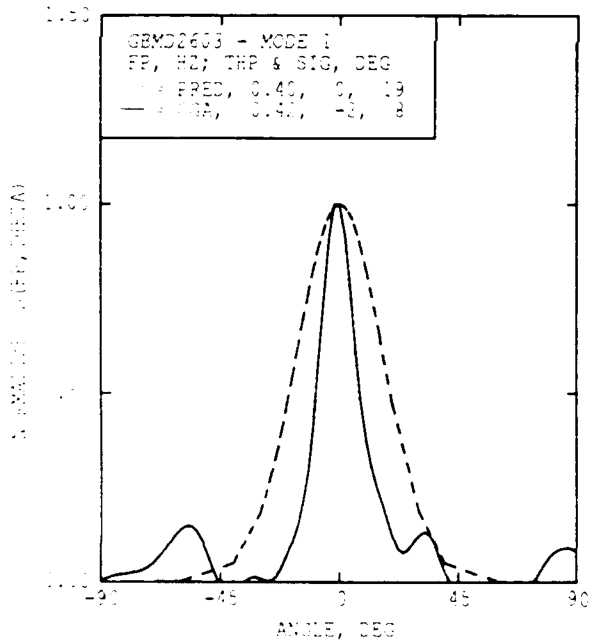
B) PRED. VS. OGA SPREADING @ PEAK FREQ



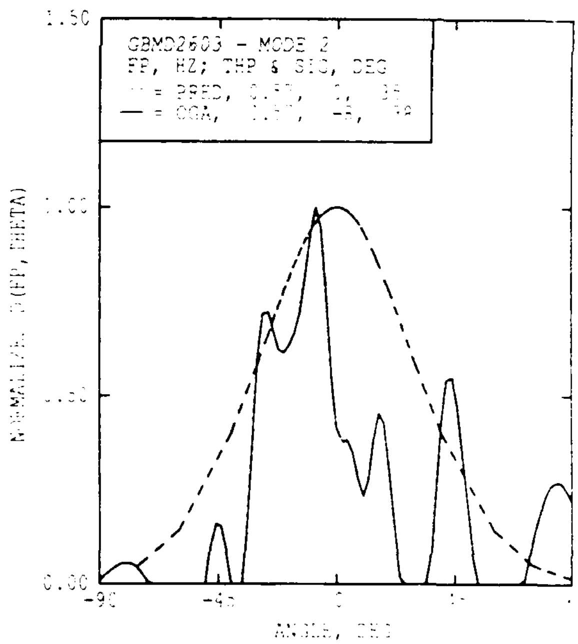
C) PRED. VS. OGA SPREADING



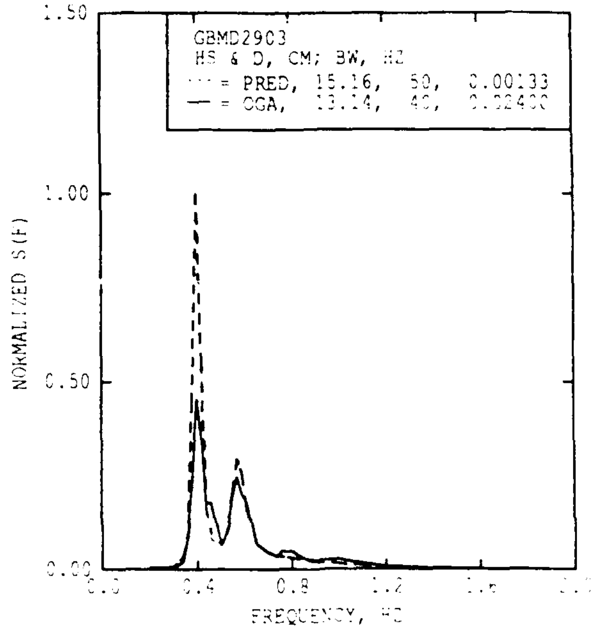
A: PRED. VS. OGA FREQUENCY SPECTRA
CAGE CODE = D



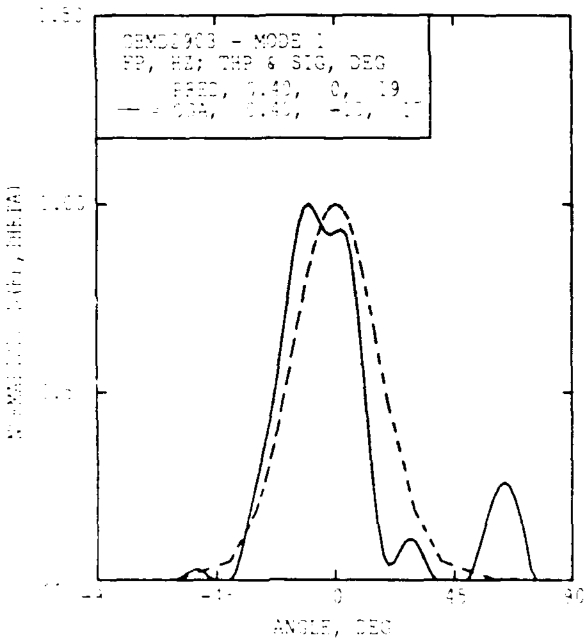
PEAK FREQ

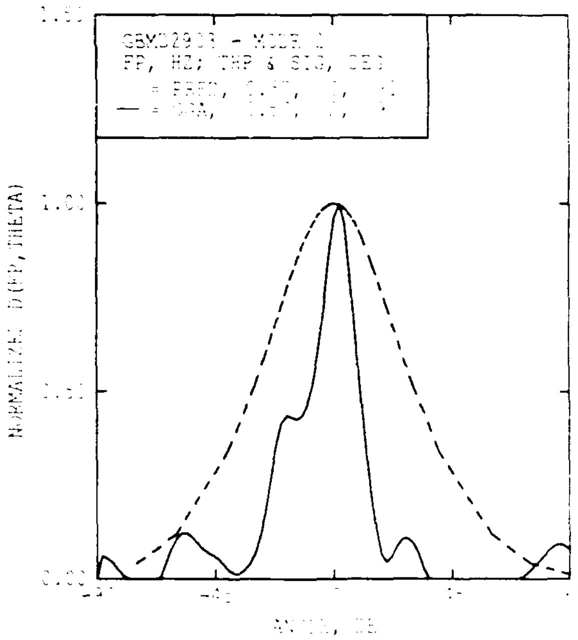


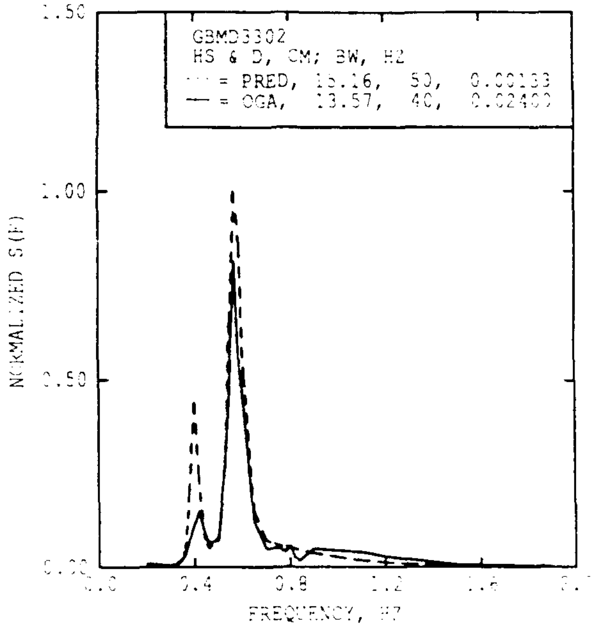
PRED. VS.



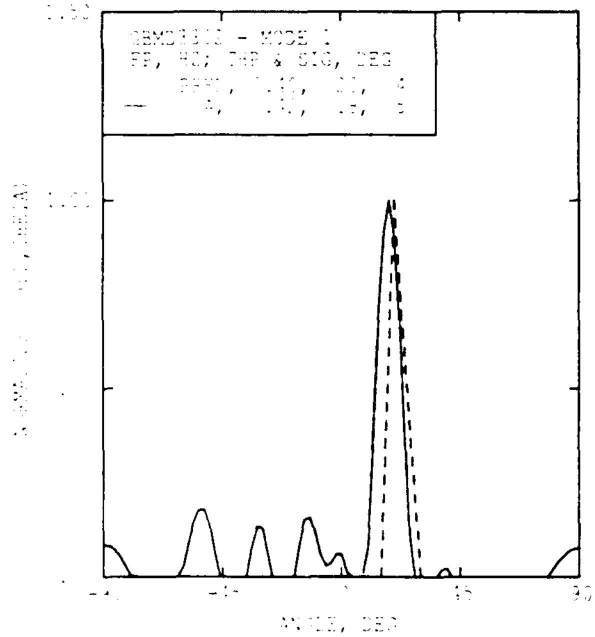
A) PRED. VS. CGA FREQUENCY SPECTRA
CASE CODE = A

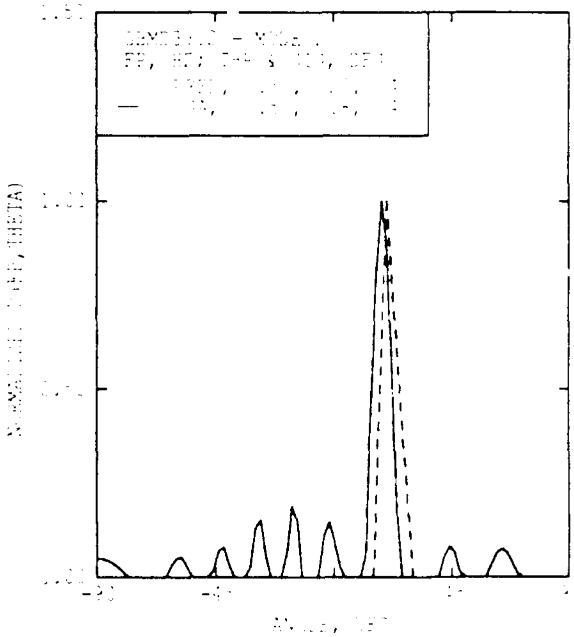


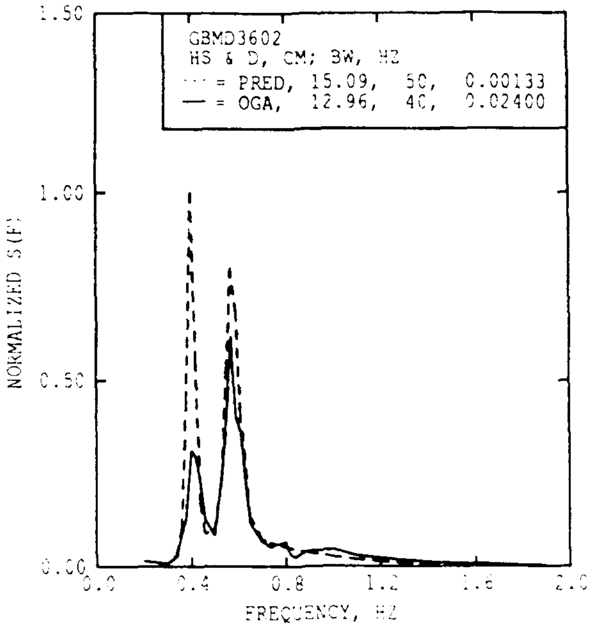




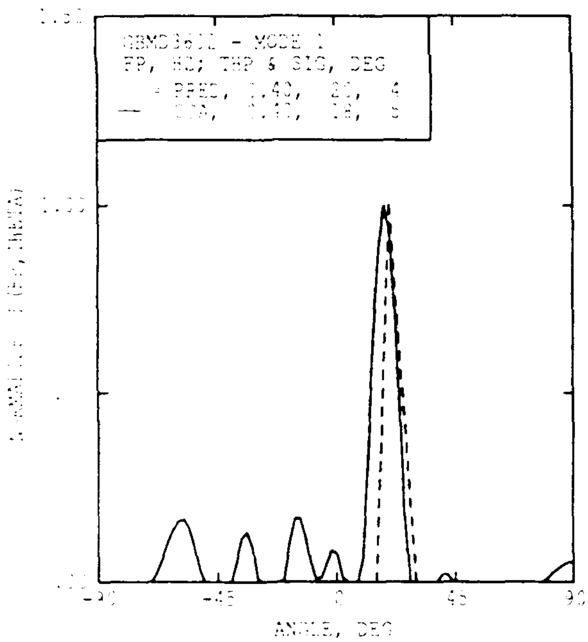
A) PRED. VS. OGA FREQUENCY SPECTRA
CASE CODE = B



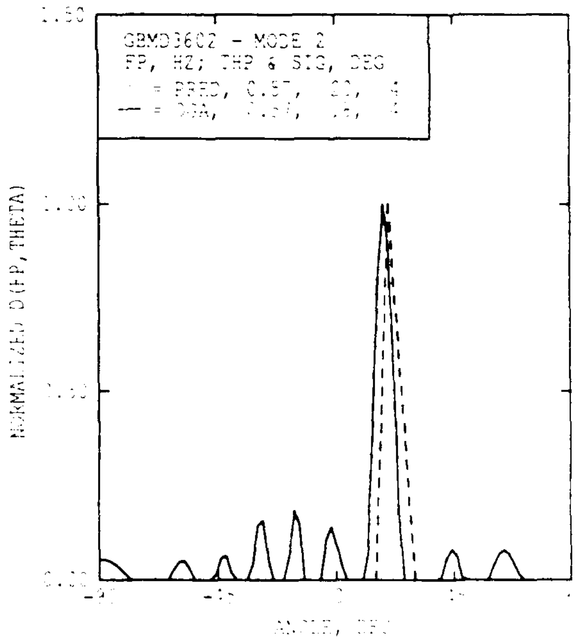




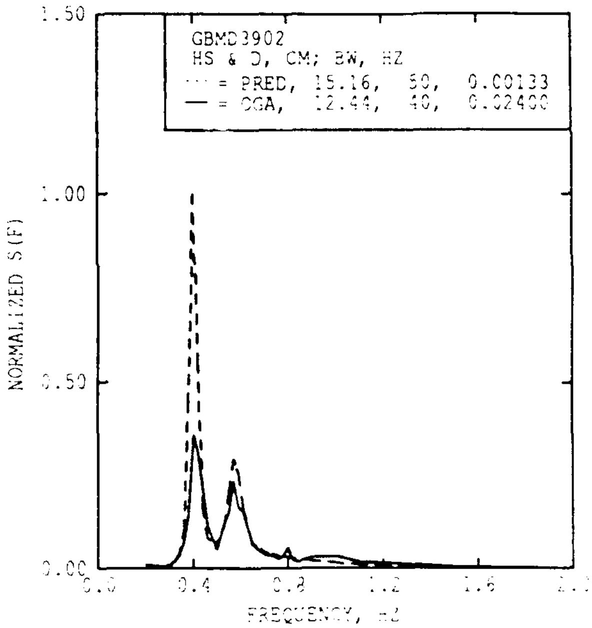
A) PRED. VS. OGA FREQUENCY SPECTRA
CASE CODE - B



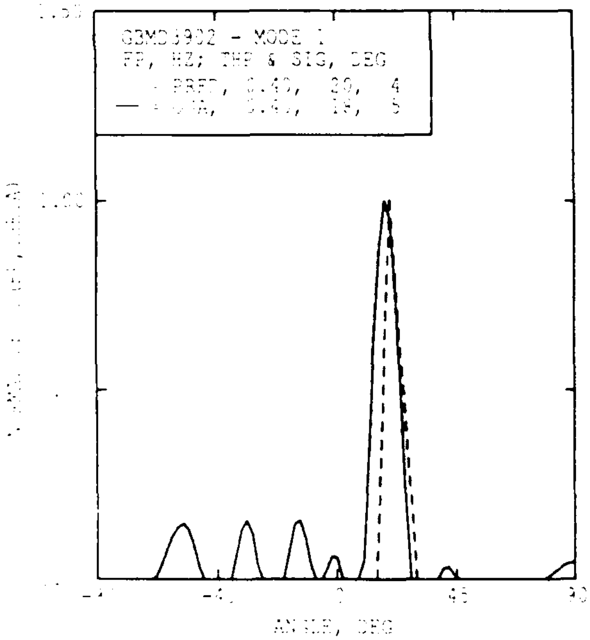
B) [illegible] SPREADING [illegible]
[illegible] B

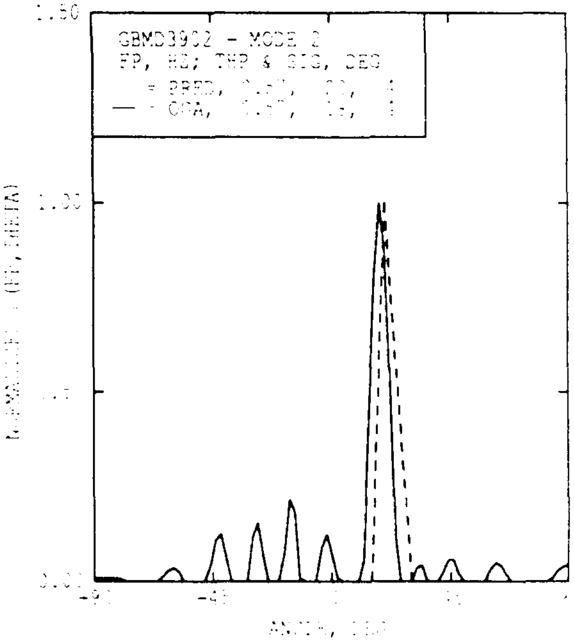


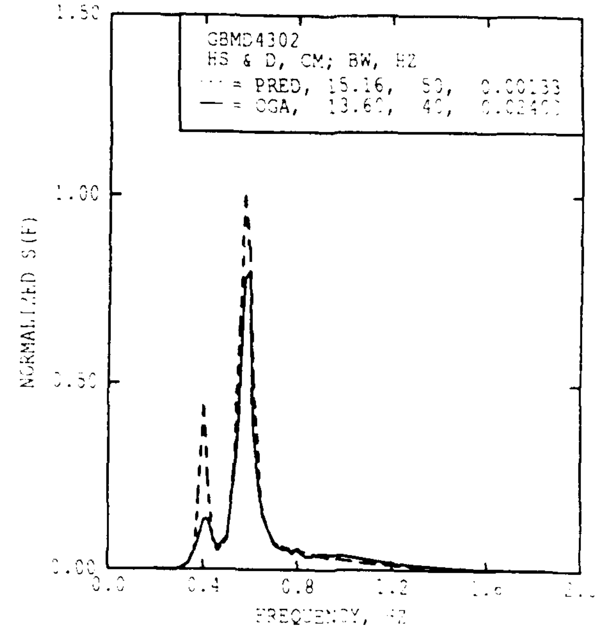
C) [illegible]
[illegible] B



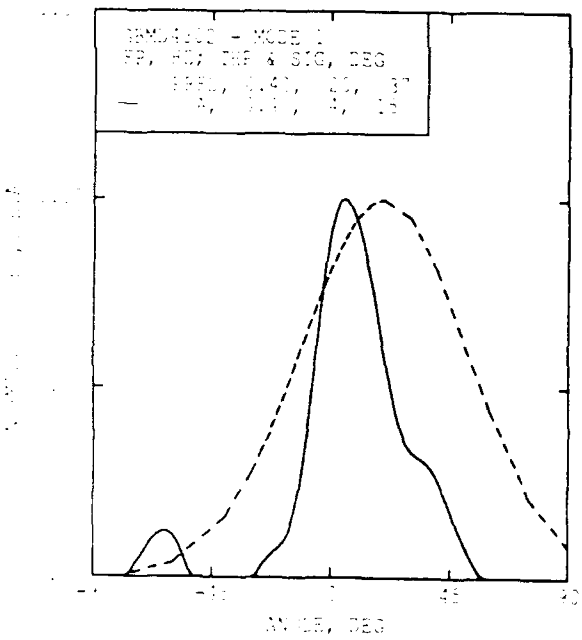
A) PRED. VS. CGA FREQUENCY SPECTRA
BASE CODE = B

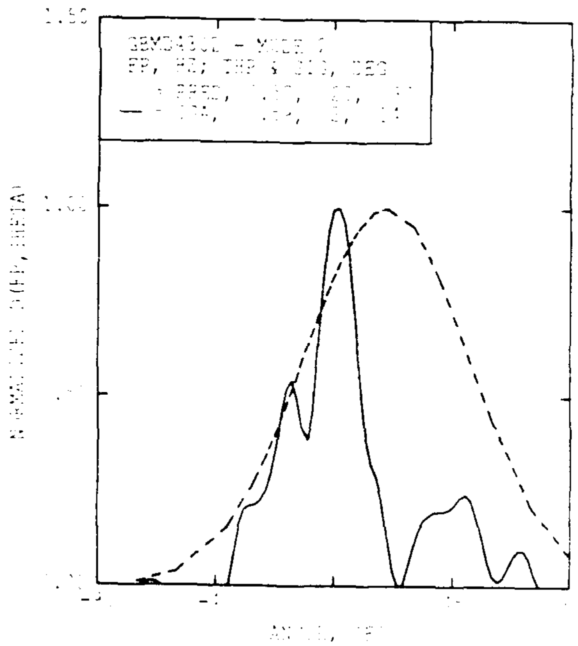


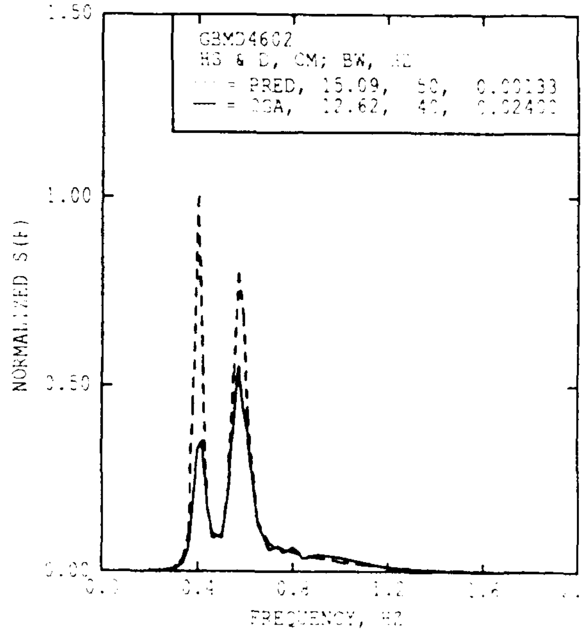




A) PRED. VS. OGA FREQUENCY SPECTRA



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HS & D, CM; BW, HZ
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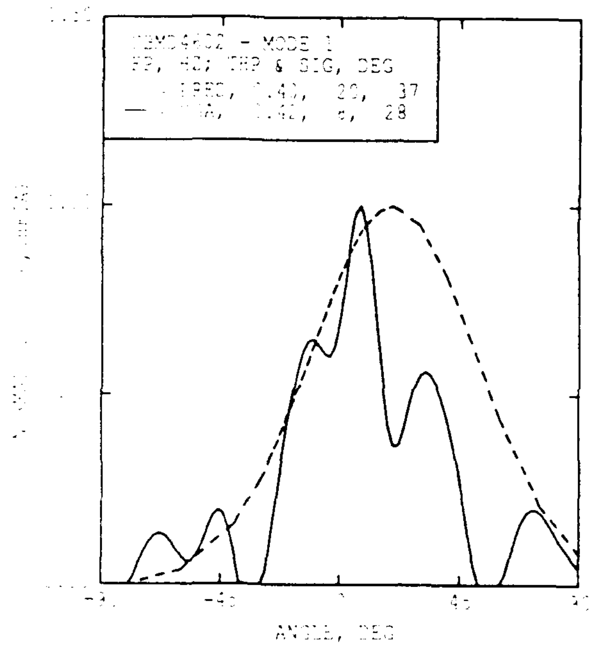
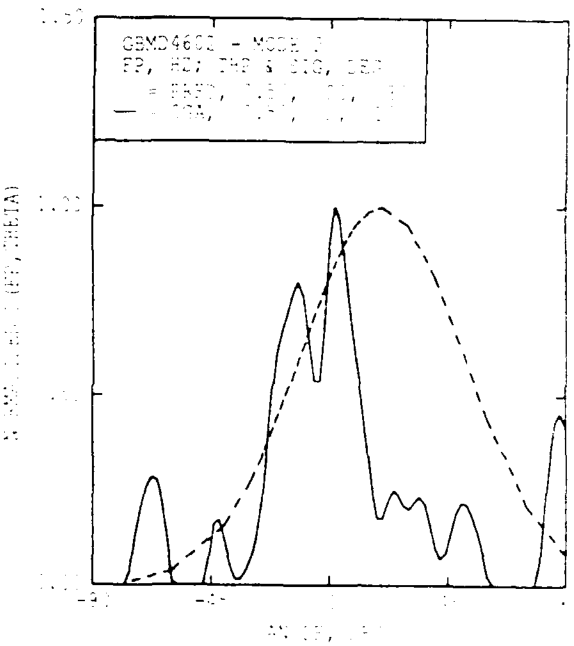
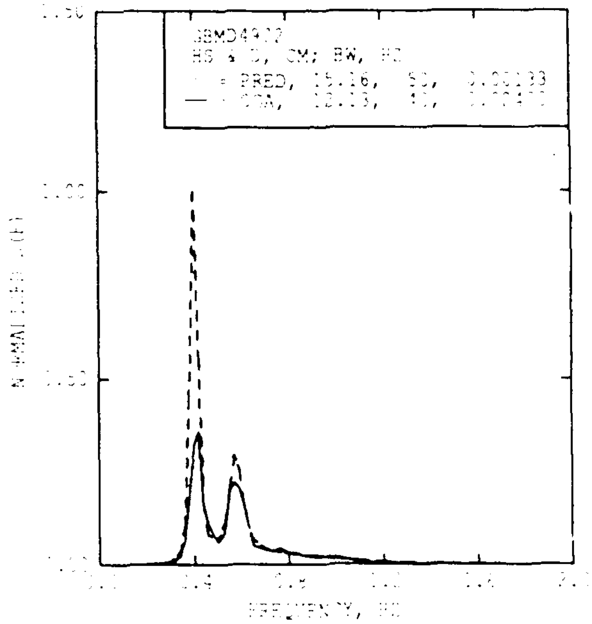
NORMALIZED S(F)
1.00
FREQUENCY, HZ


FP, HZ; THP & SIG, DEG
ANGLE, DEG


GBMD4602 - MODE
FP, HZ; THP & SIG, DEG
1.00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HS & D, CM; BW, HZ
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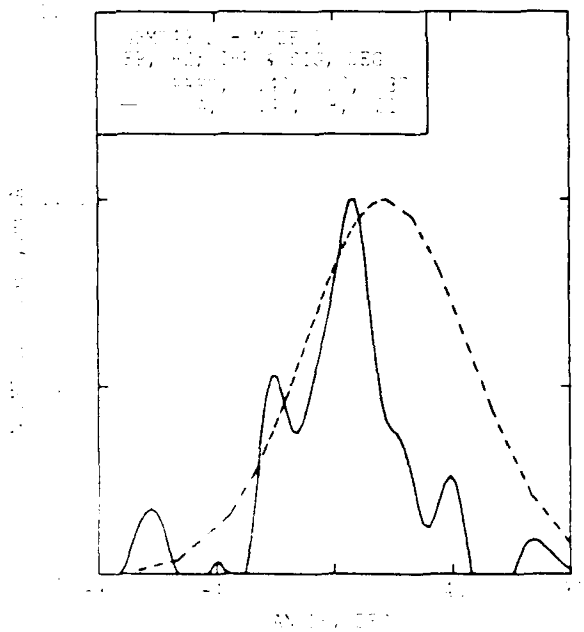
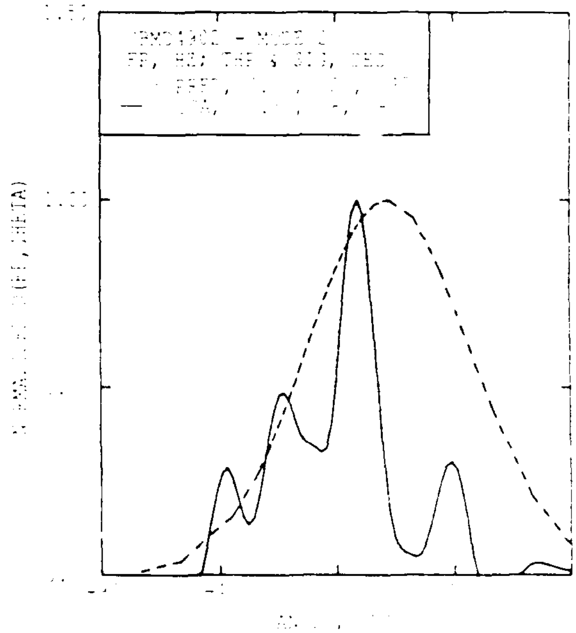
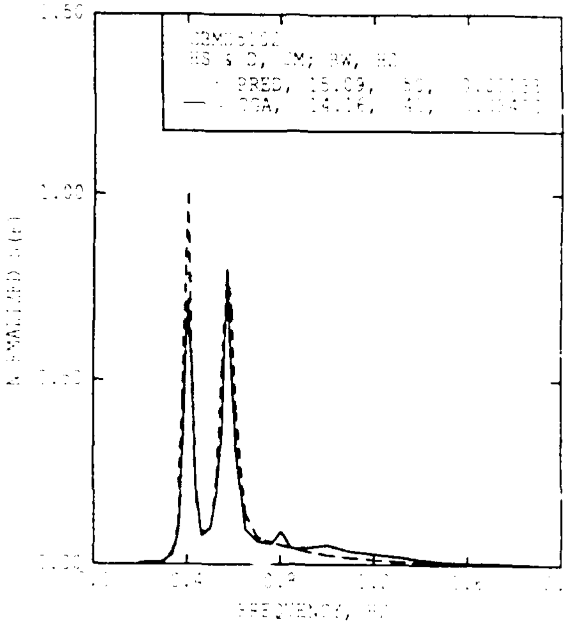



FP, HZ; THE & SIG, DEG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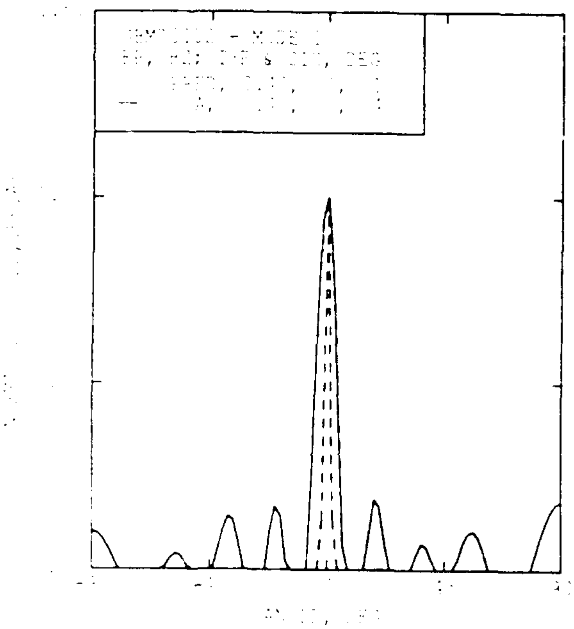
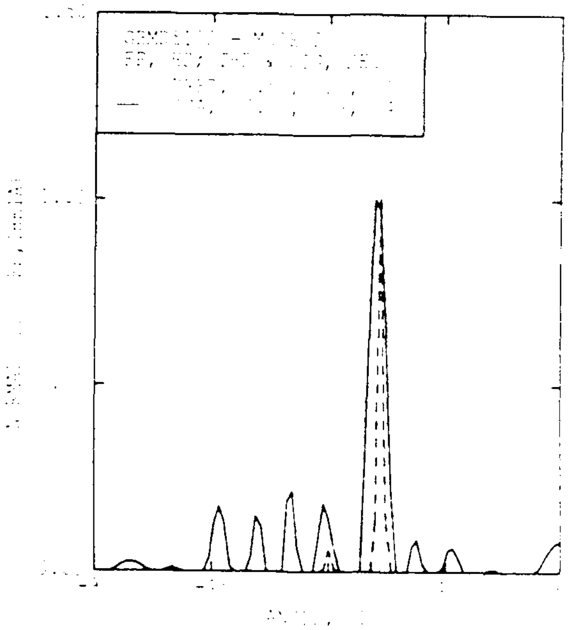
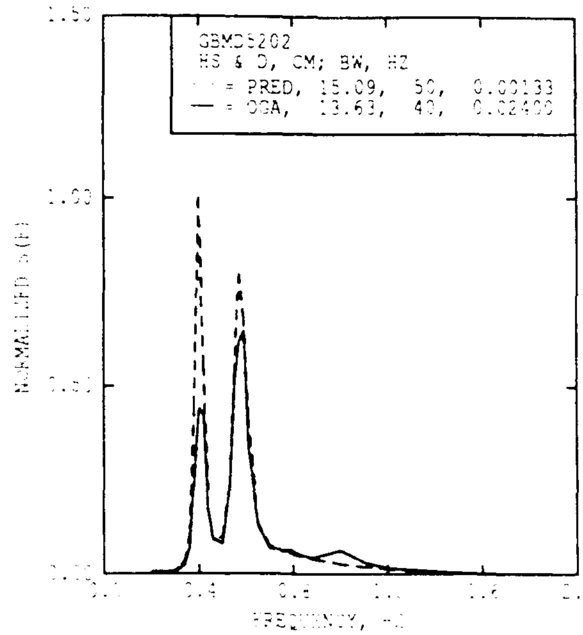
0.8
FREQUENCY, HZ



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0.4
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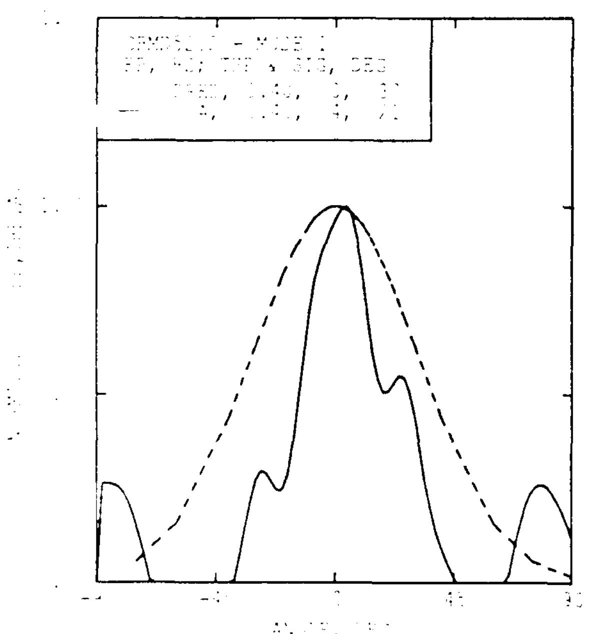

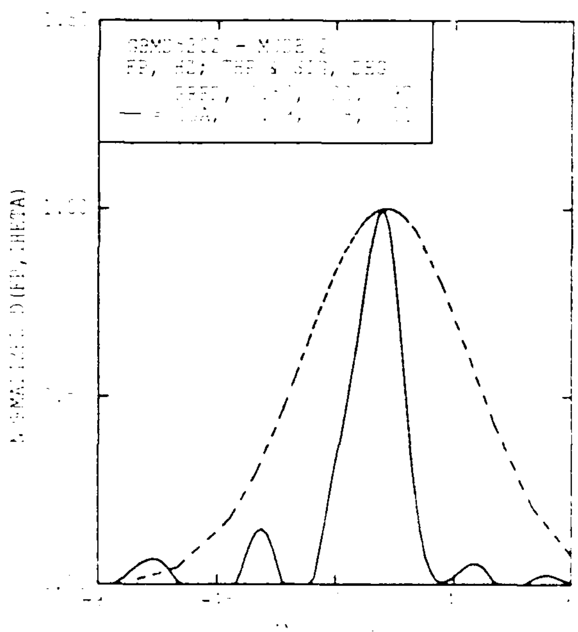
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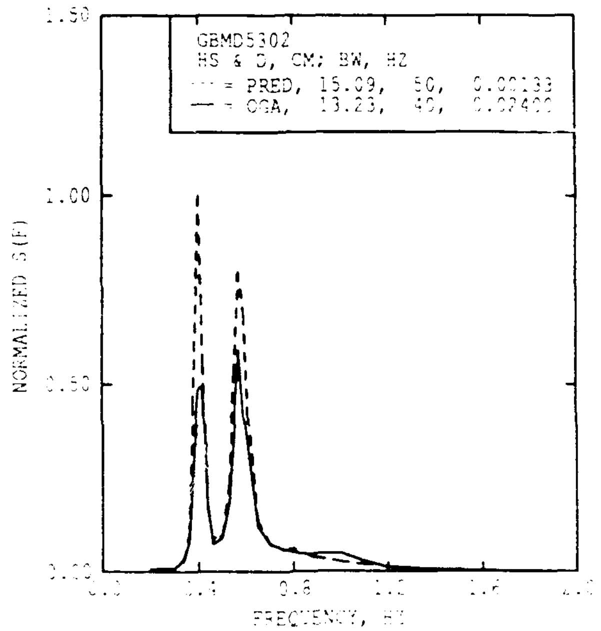
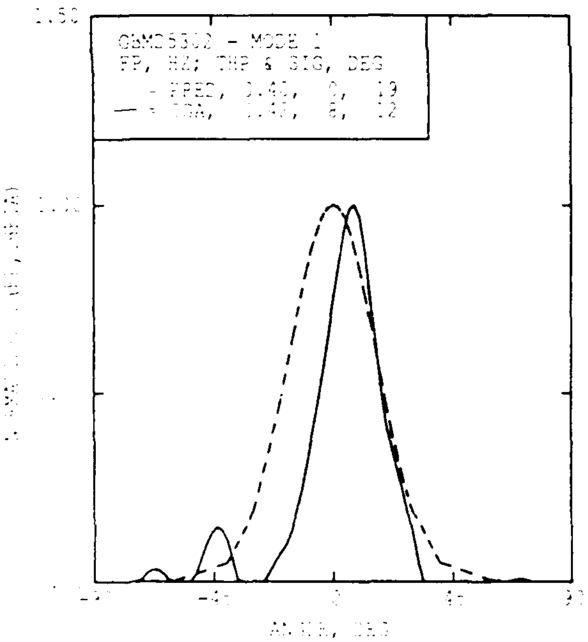
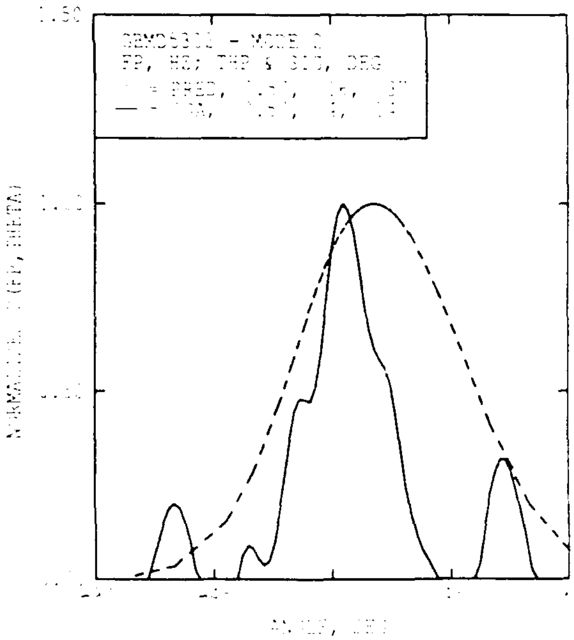
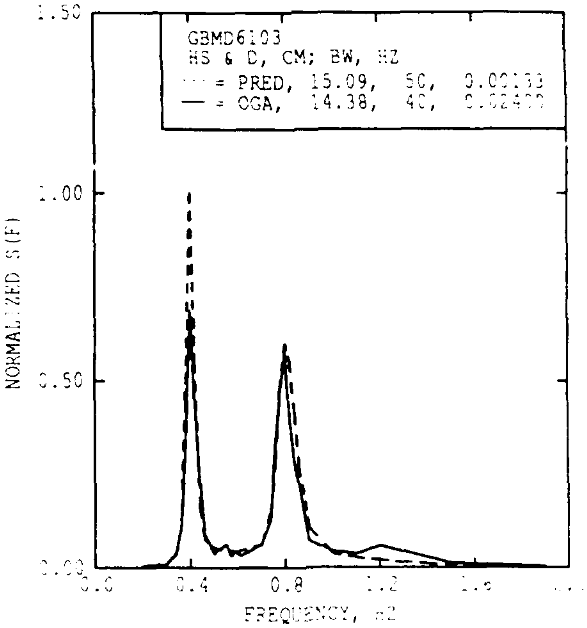


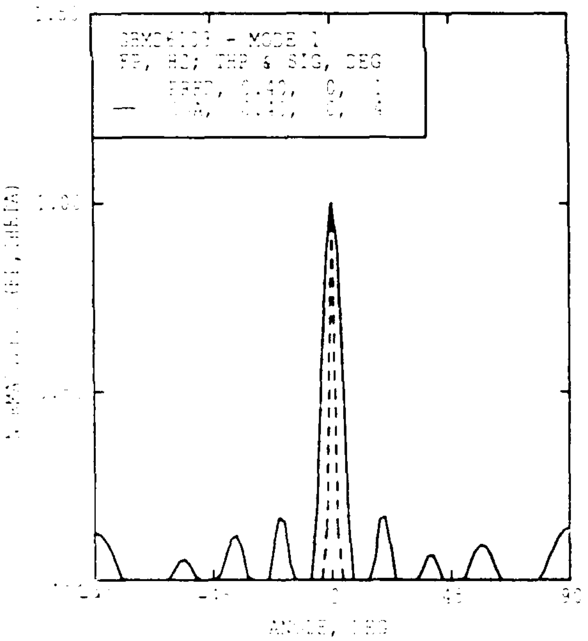
A) PRED. VS. OGA FREQUENCY SPECTRA
WAVE CODE = A

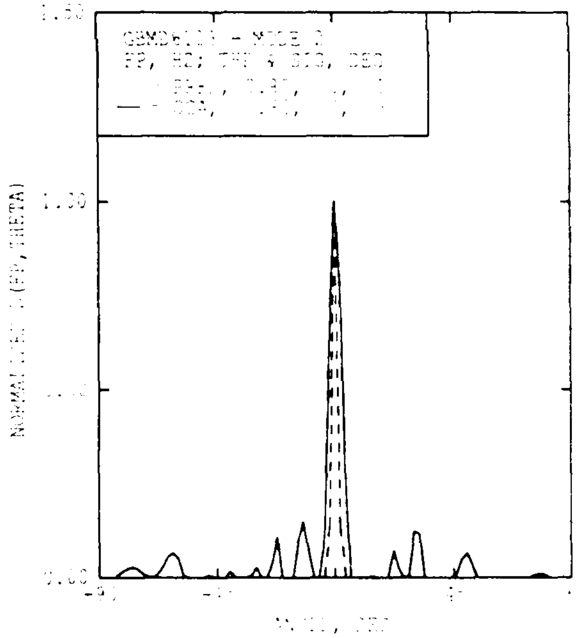


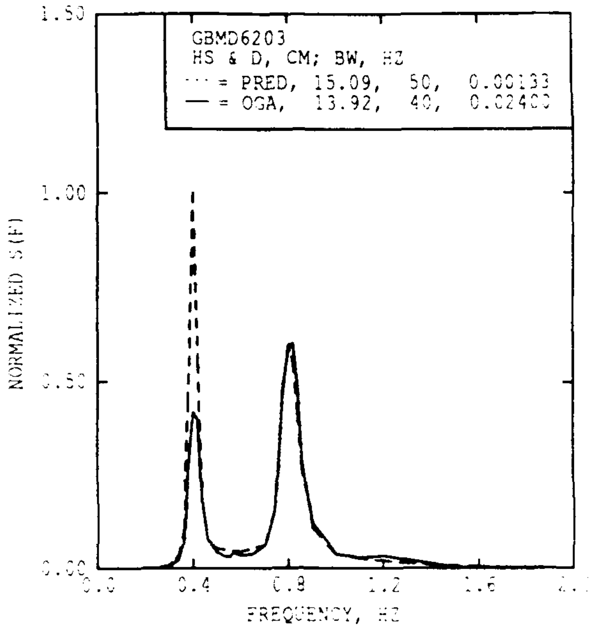




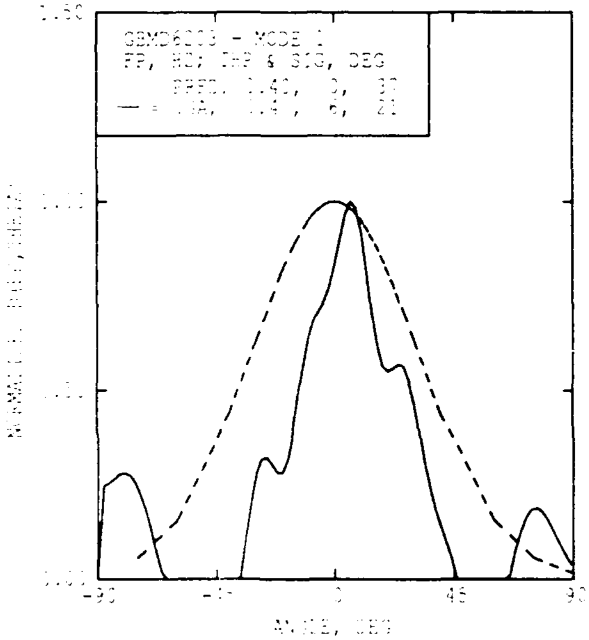
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = B



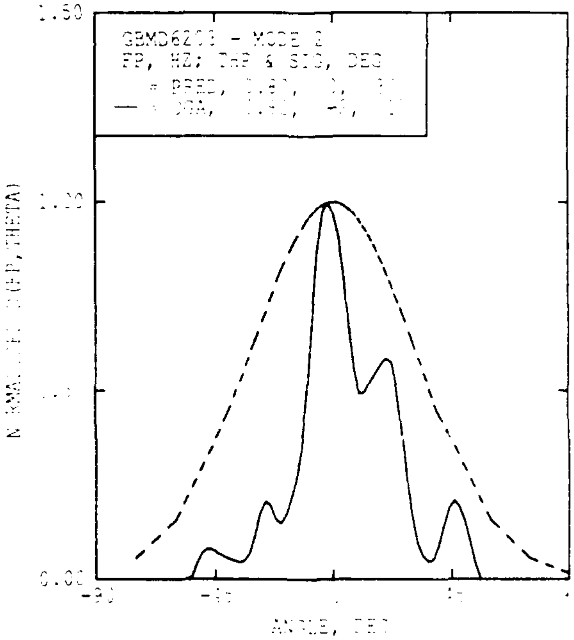




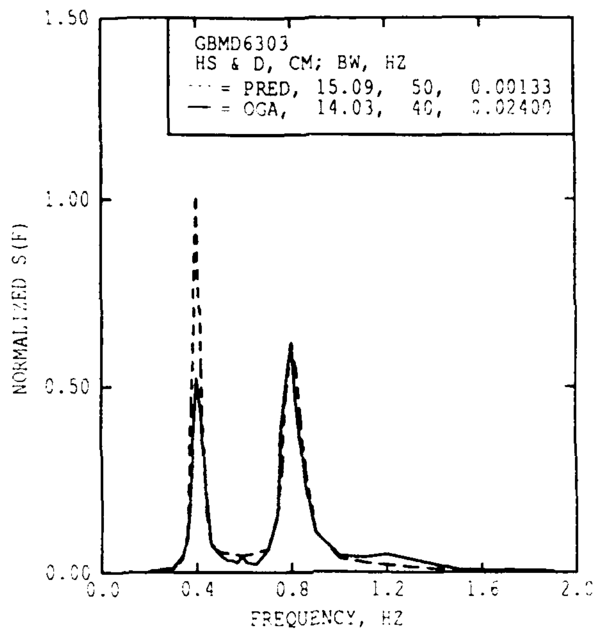
A) PRED. VS. OGA FREQUENCY SPECTRA
CAGE CODE = C



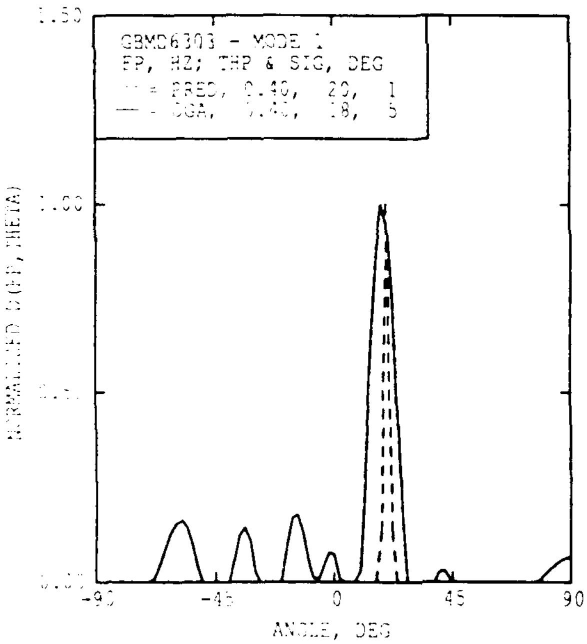
SPREADING & PEAK FRE.



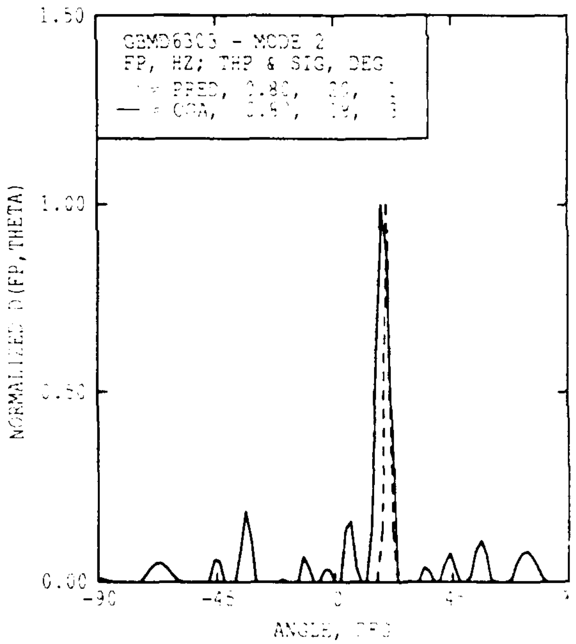
C) PRED. VS.



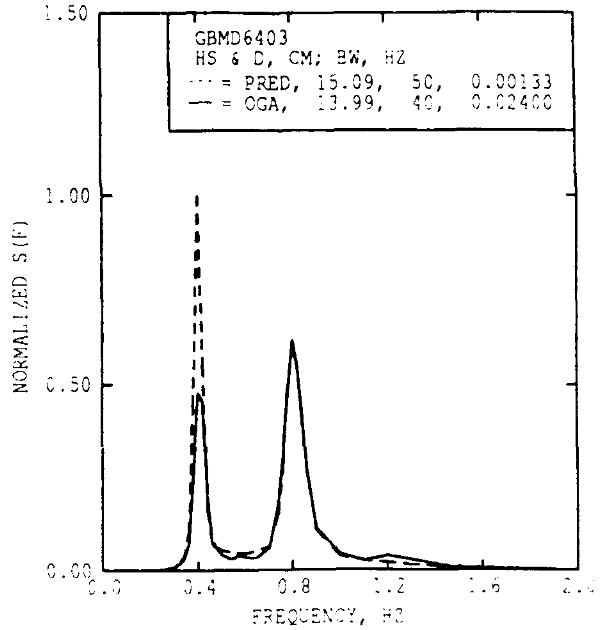
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = B



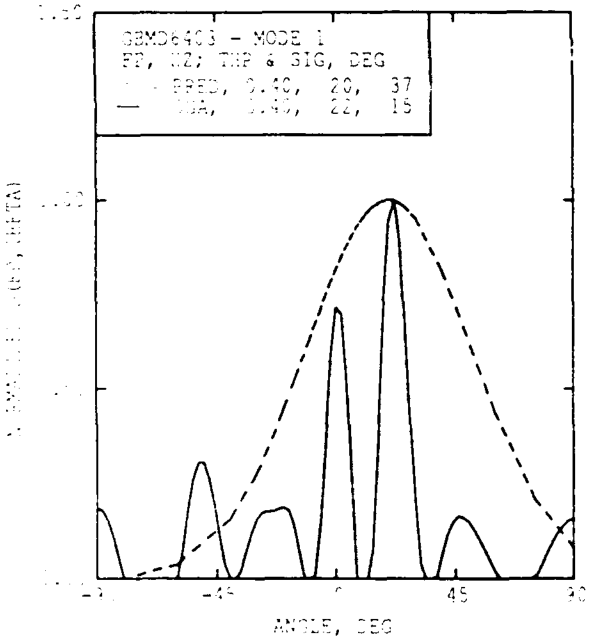
B) PRED. VS. OGA SPREADING @ PEAK FREQ
GAGE CODE = B



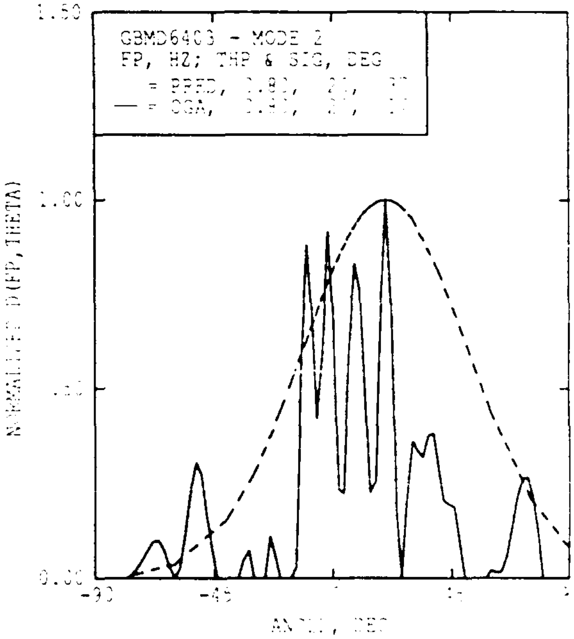
C) PRED. VS. OGA SPREADING @ PEAK FREQ
GAGE CODE = B



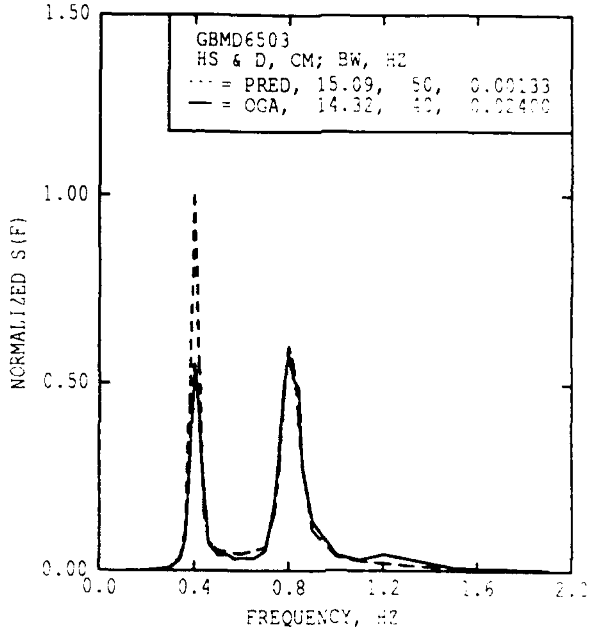
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = B



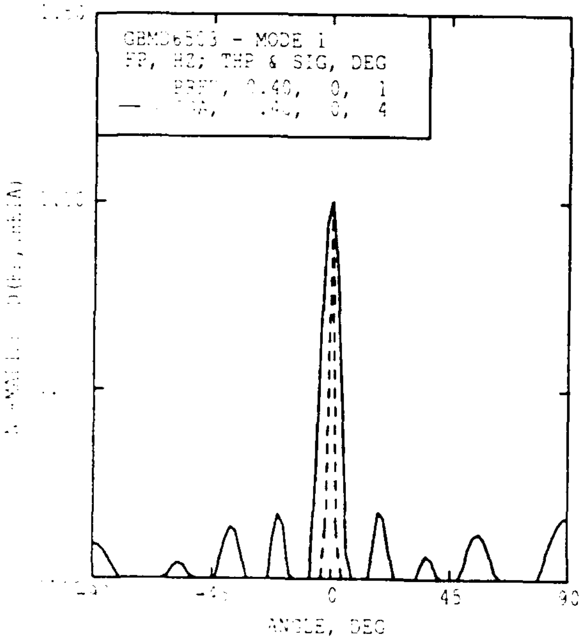
B) PRED. VS. OGA SPREADING & PEAK FREQ
GAGE CODE = B

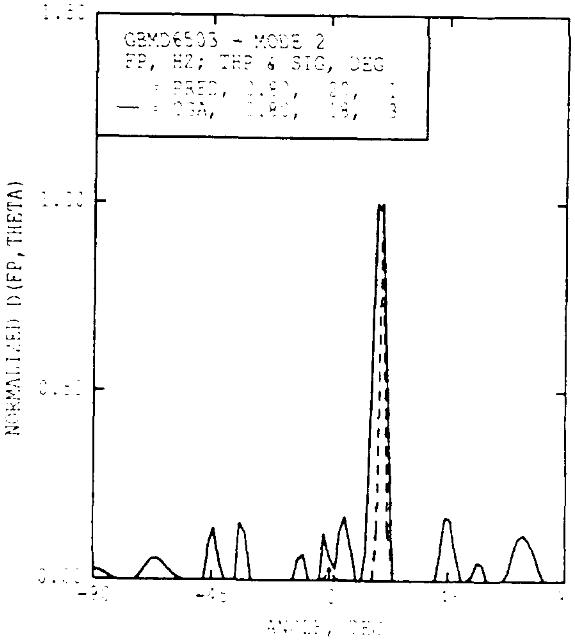


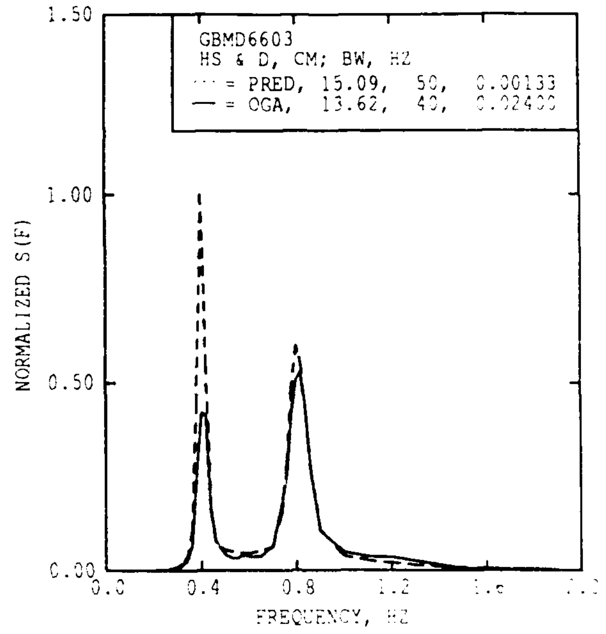
C) PRED. VS. OGA SPREADING & PEAK FREQ
GAGE CODE = B



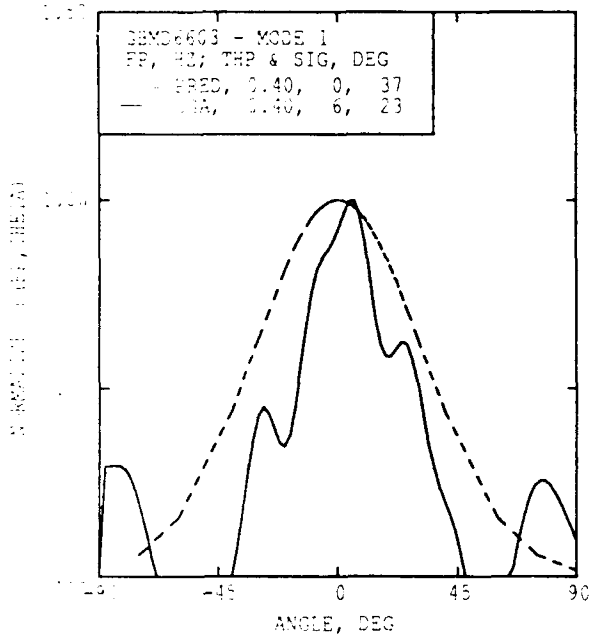
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = B



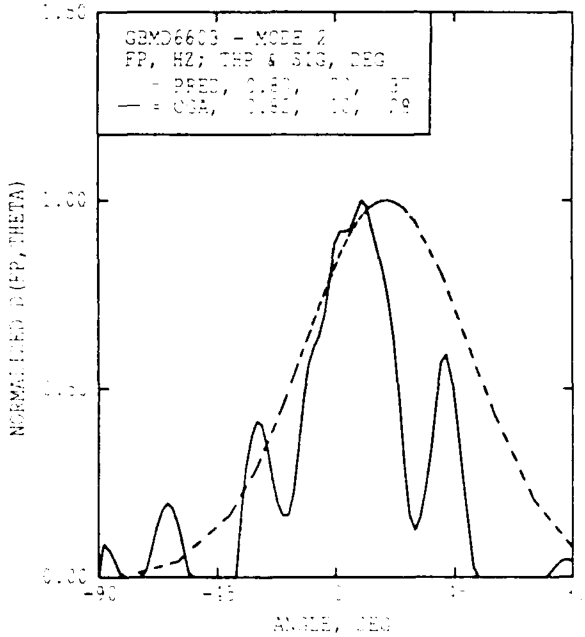


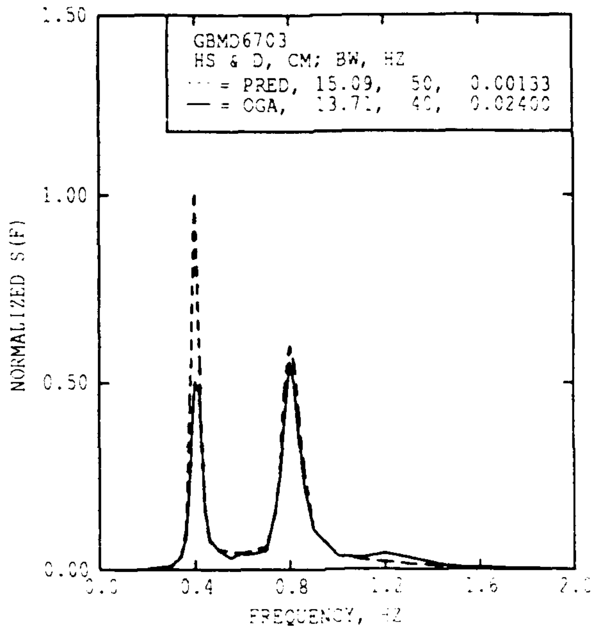


A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = C

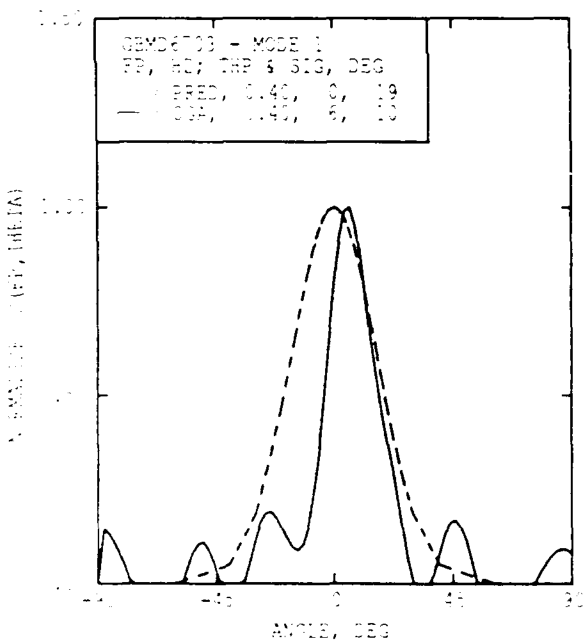


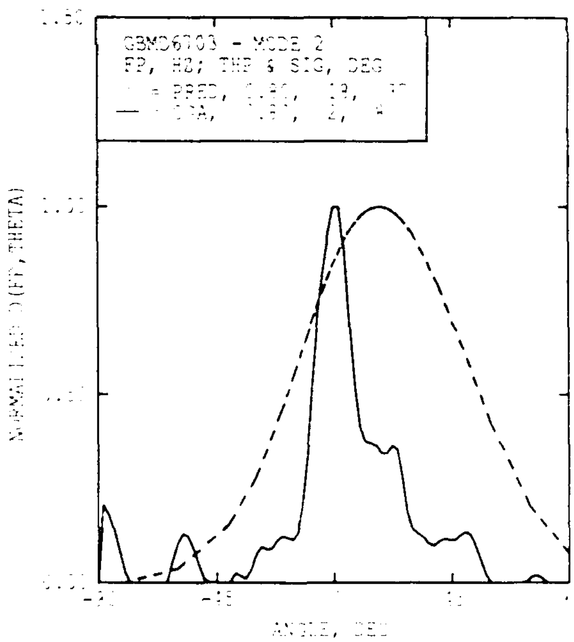
A SPREADING @ PEAK FREQ

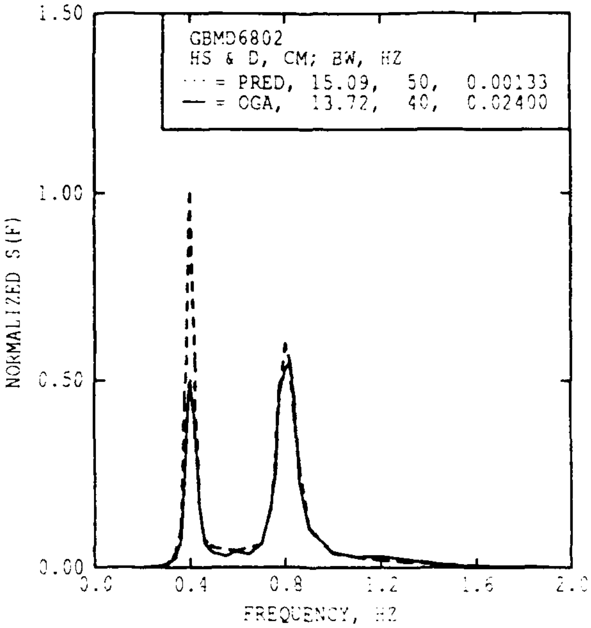




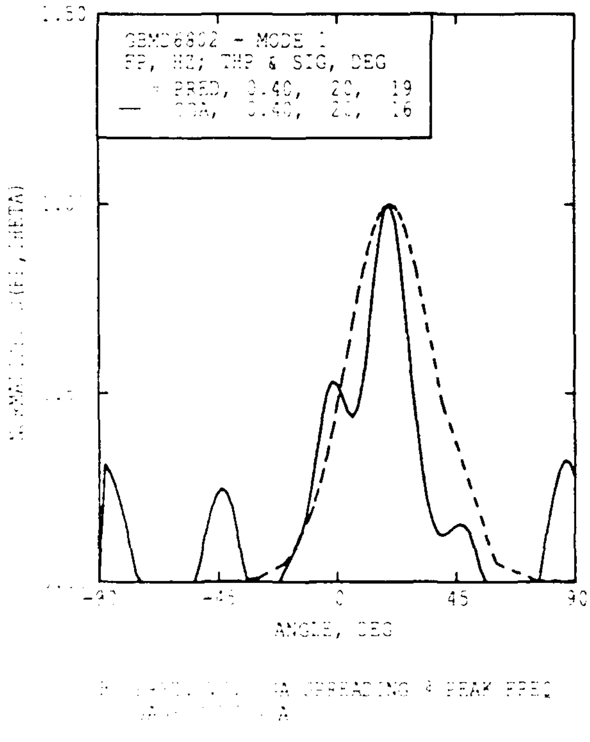
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = A



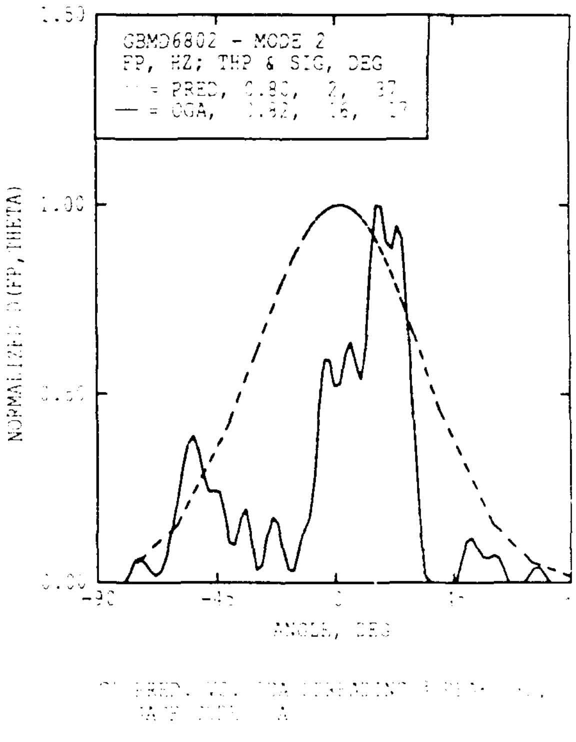




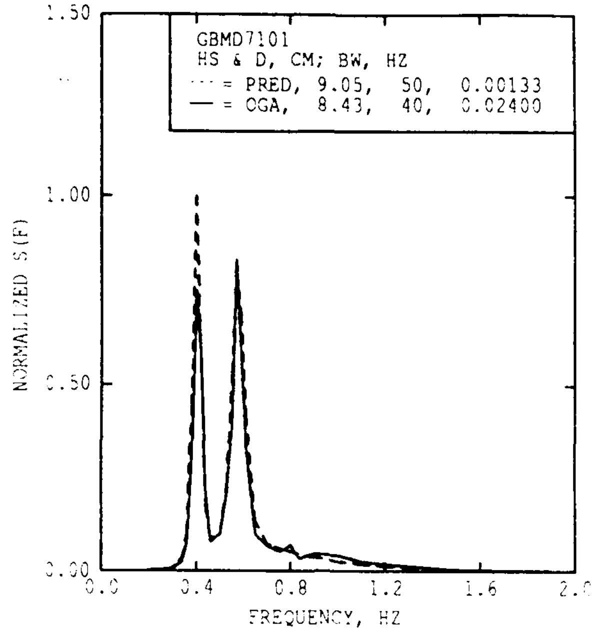
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = A



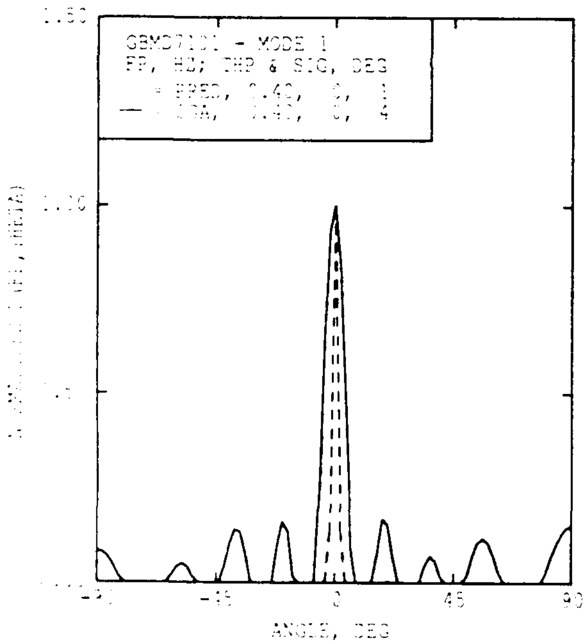
B) ... SPREADING & PEAK FREQ
... A

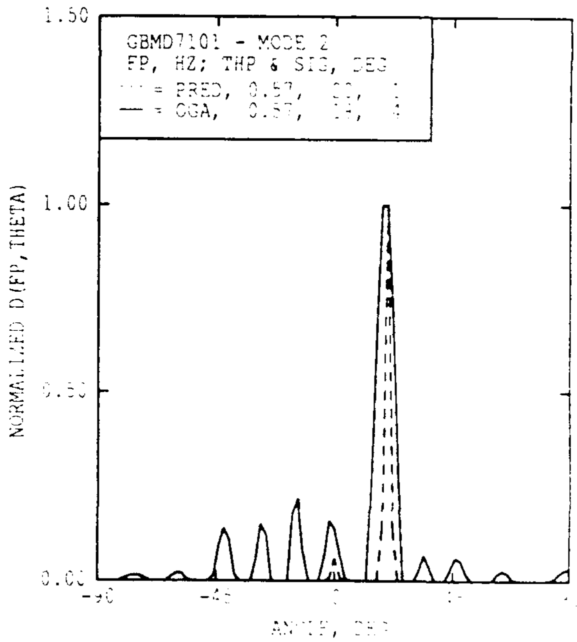


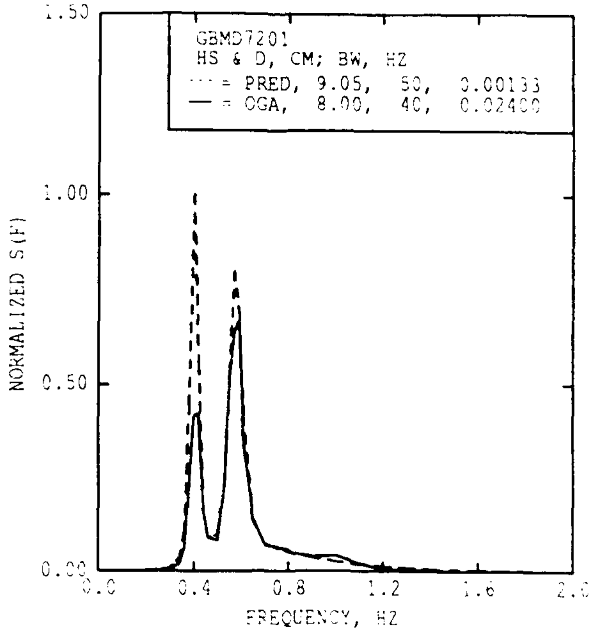
C) PRED. ...
... A



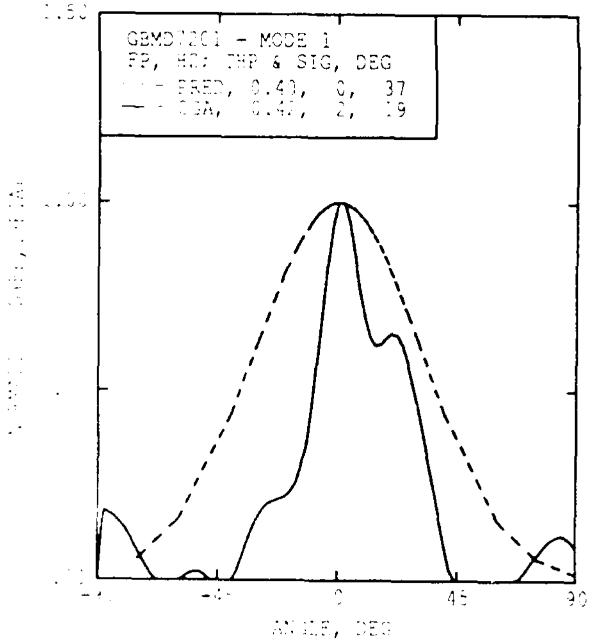
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = B

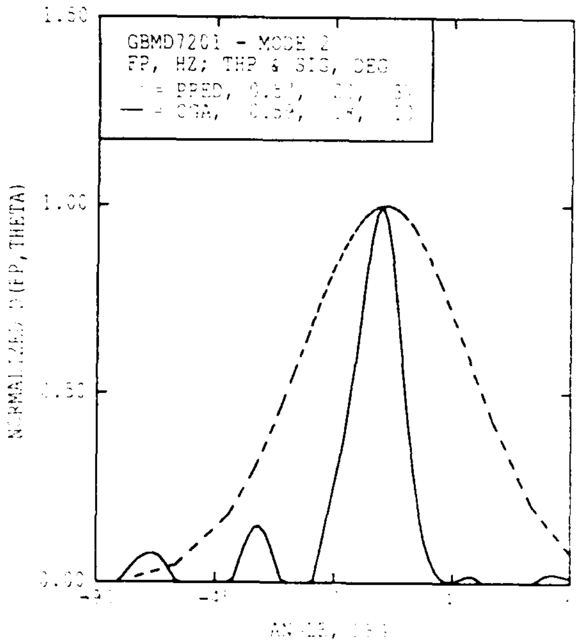


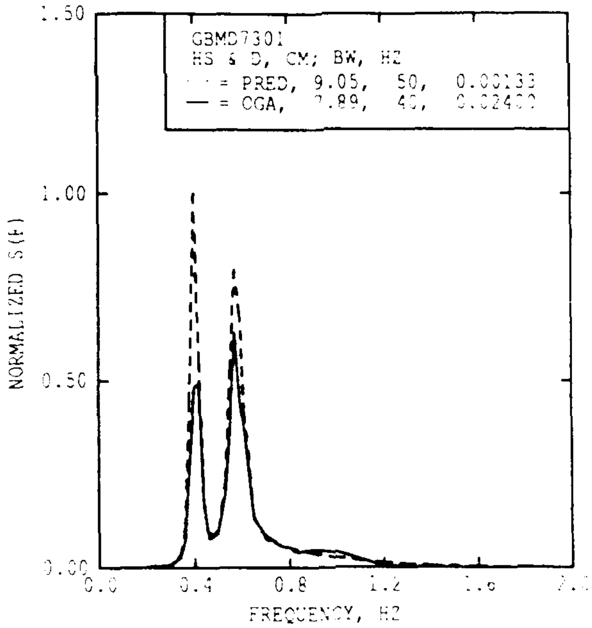




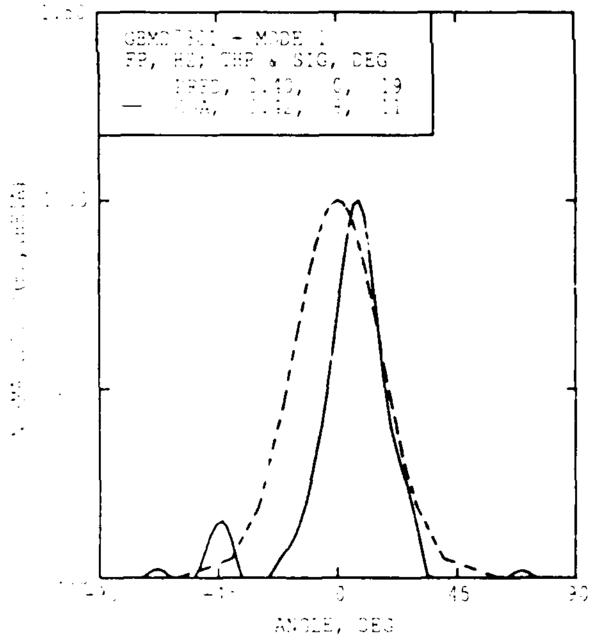
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = C

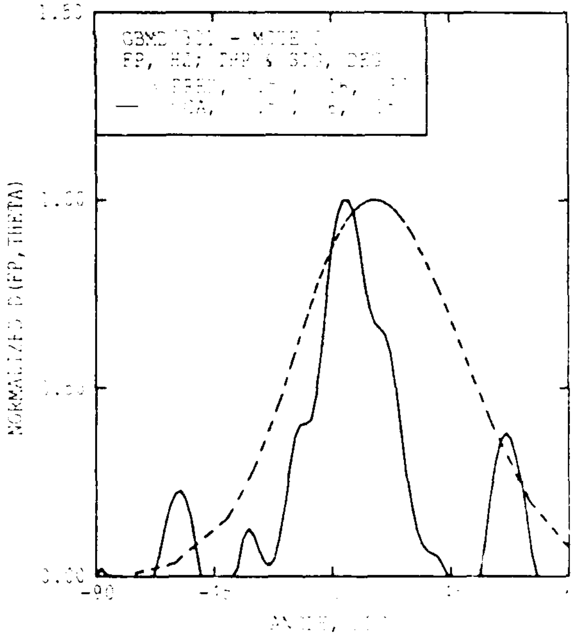


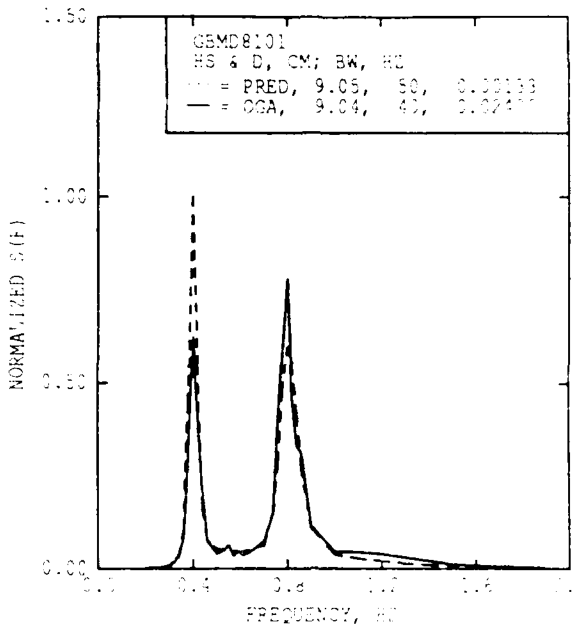




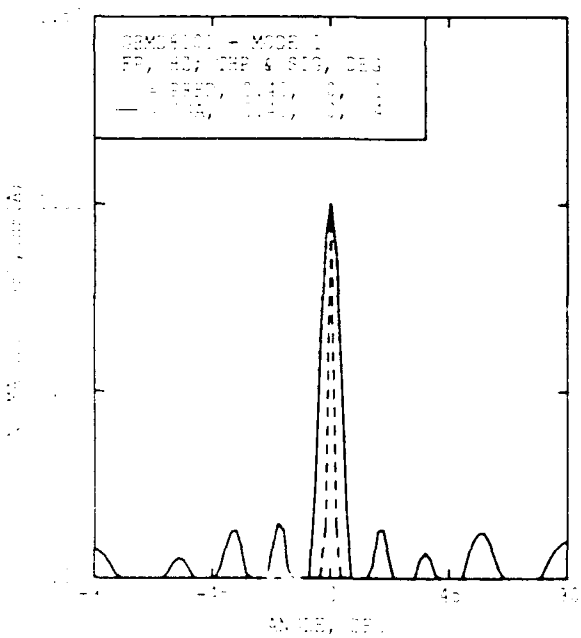
A) PRED. VS. CGA FREQUENCY SPECTRA
GAGE CODE = A

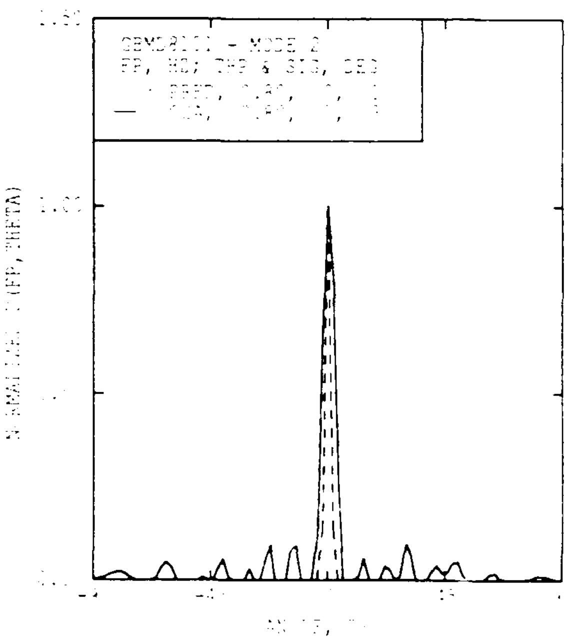


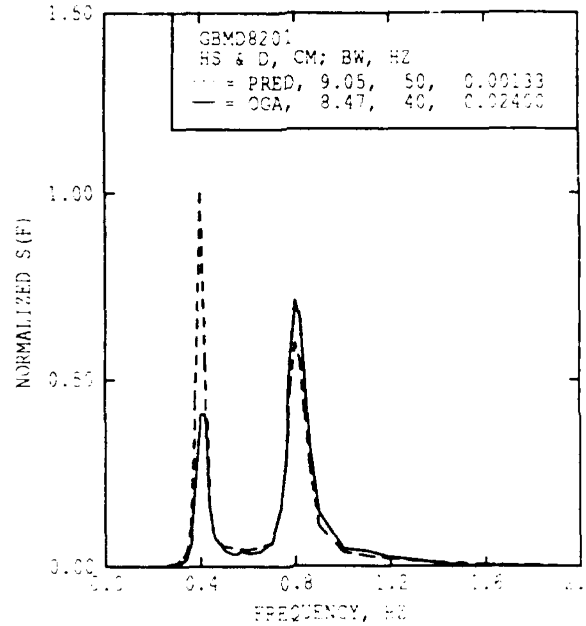




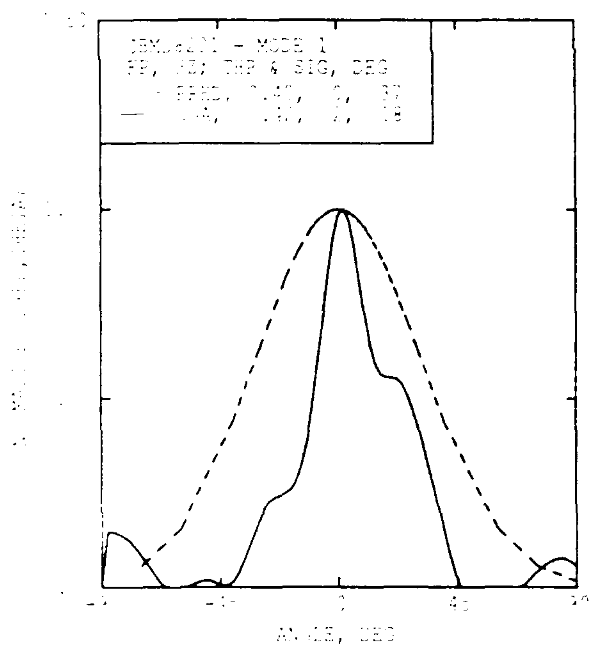
A. PRED. VS. OGA FREQUENCY SPECTRA
CASE CODE B

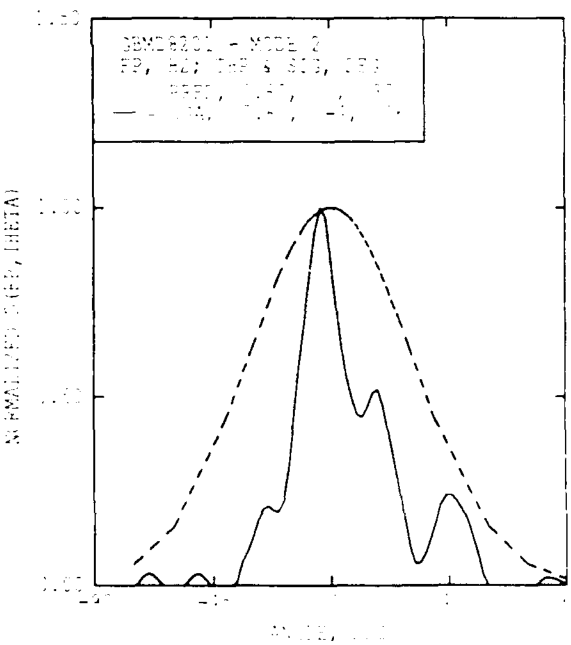


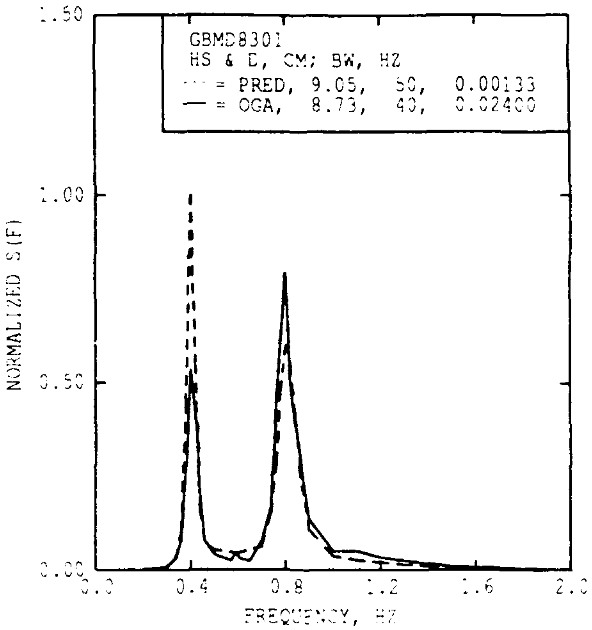




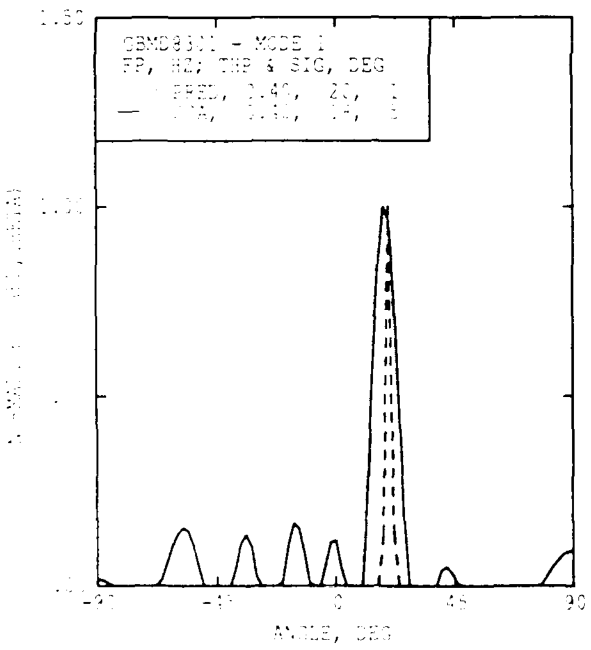
A) PRED. VS. OGA FREQUENCY SPECTRA

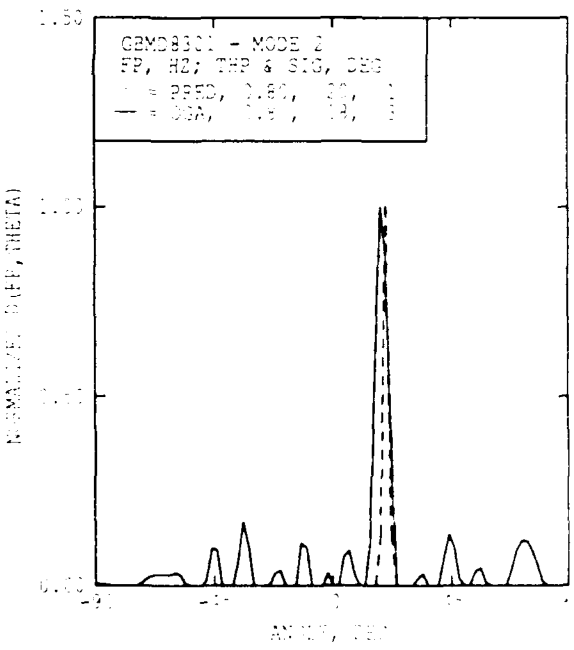


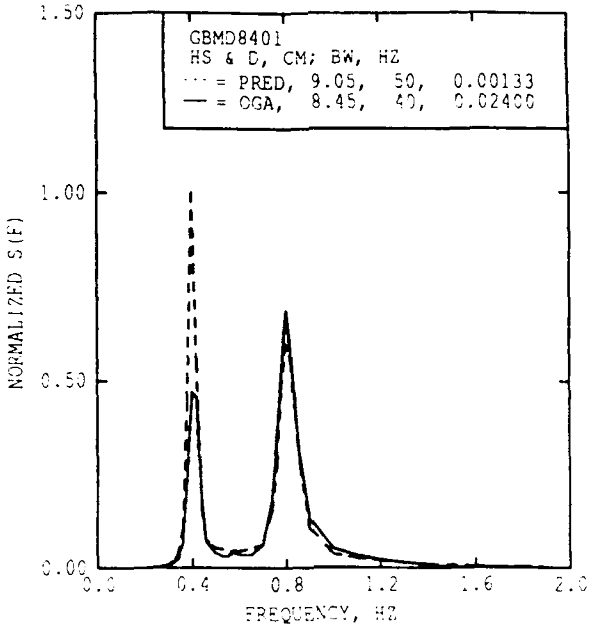




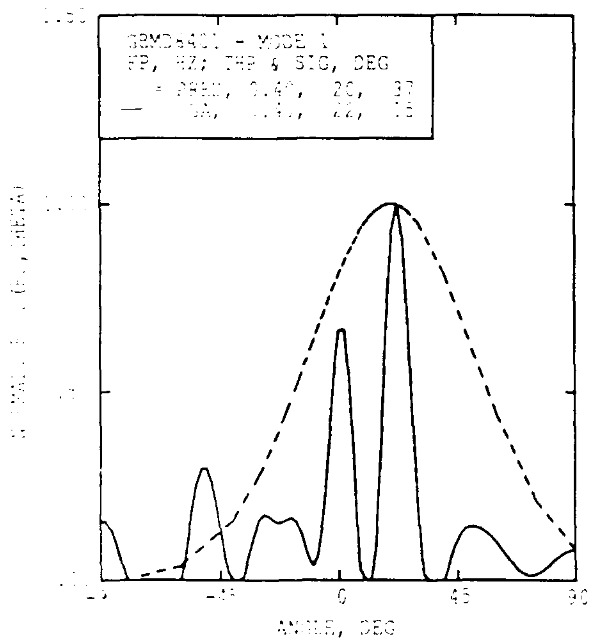
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = B

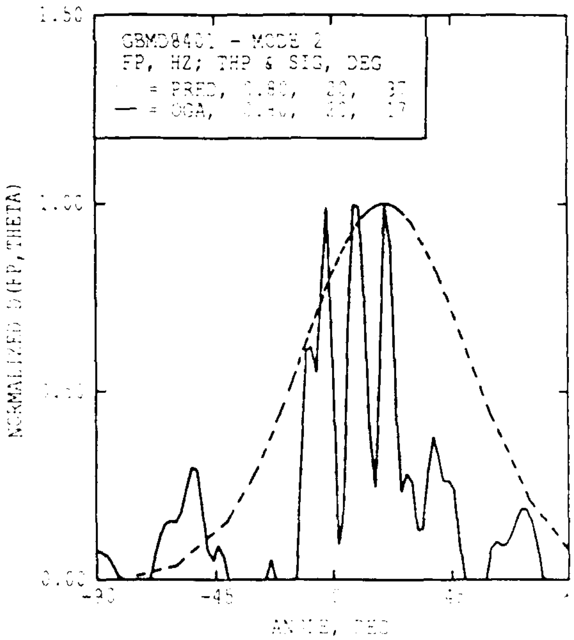


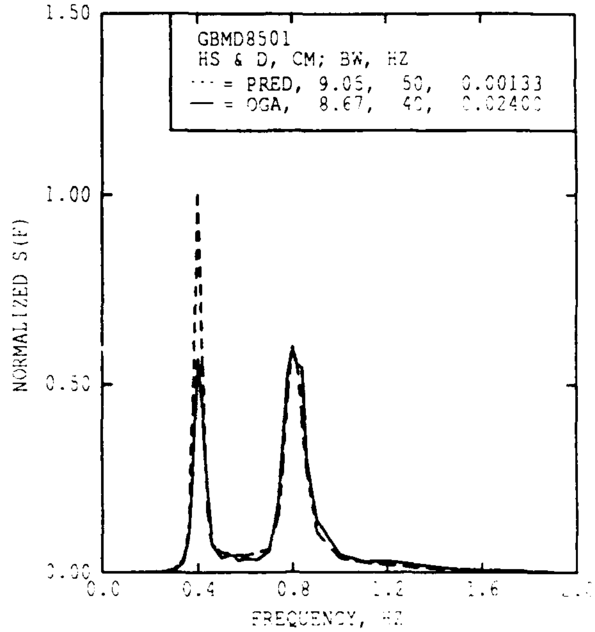




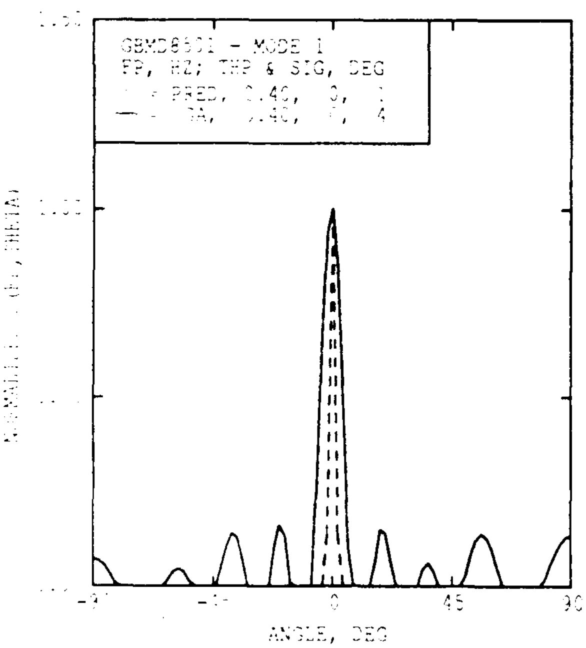
A) PRED. VS. OGA FREQUENCY SPECTRA

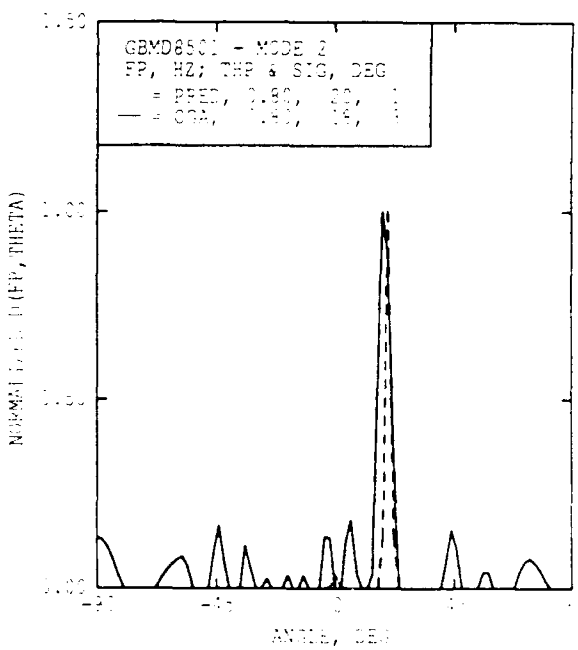


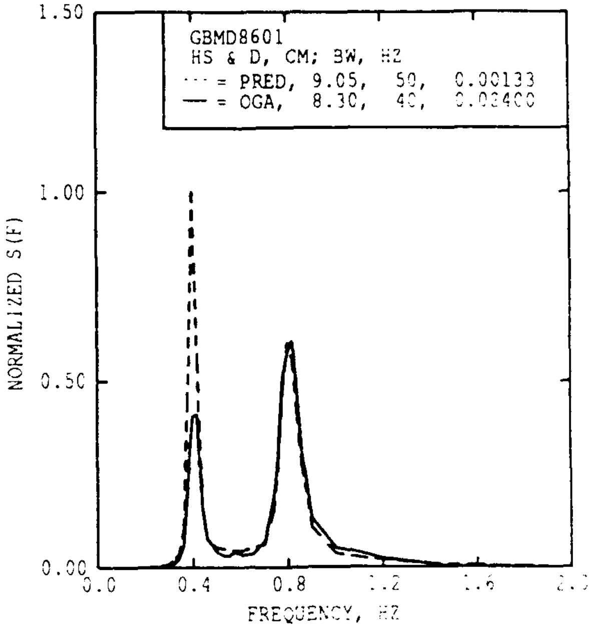




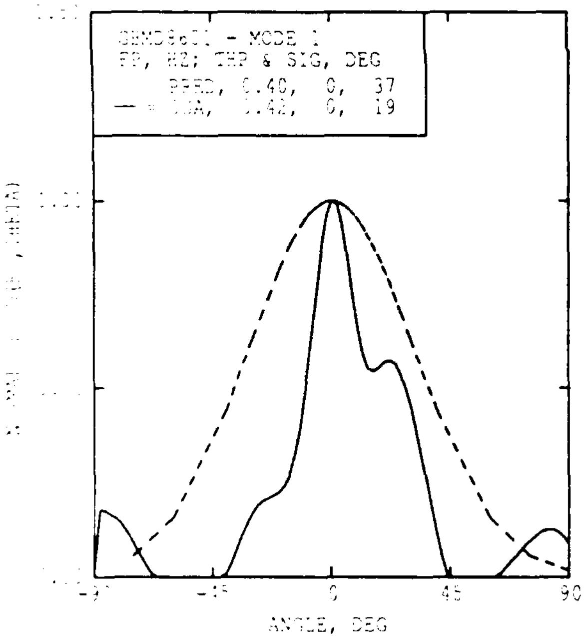
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = B

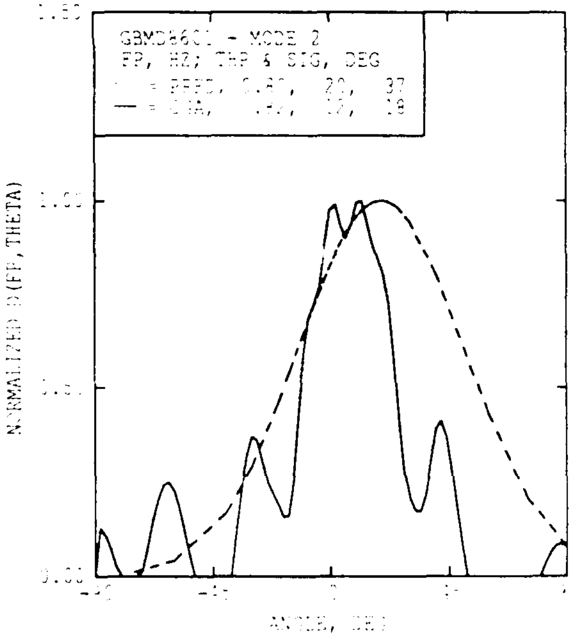




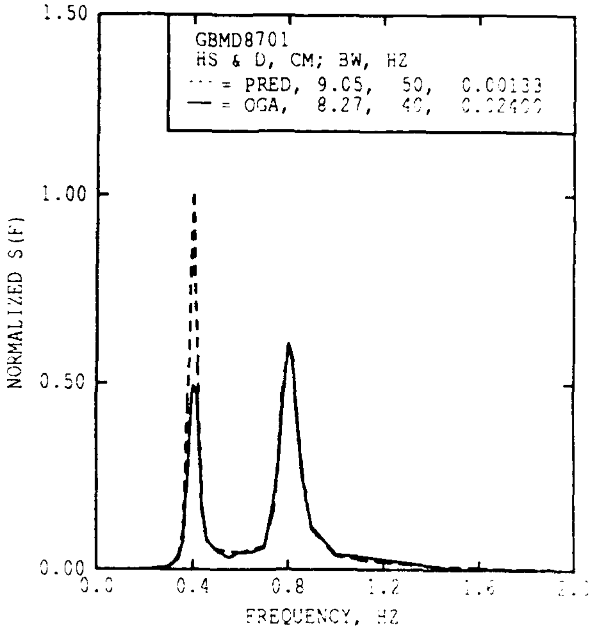


A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = C

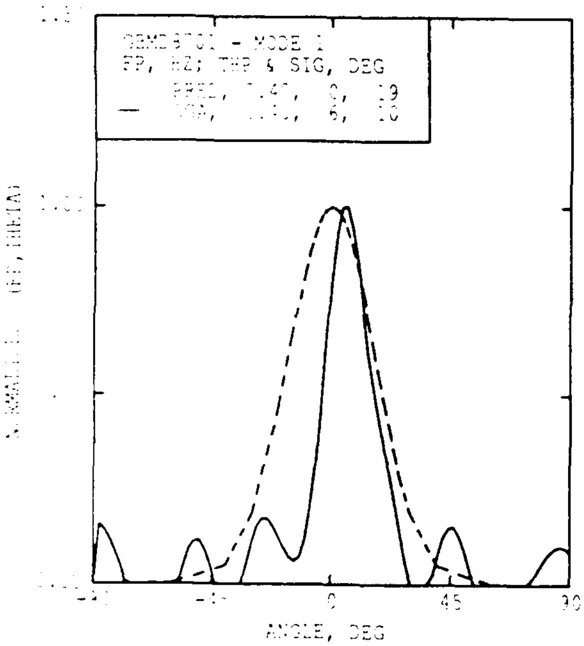




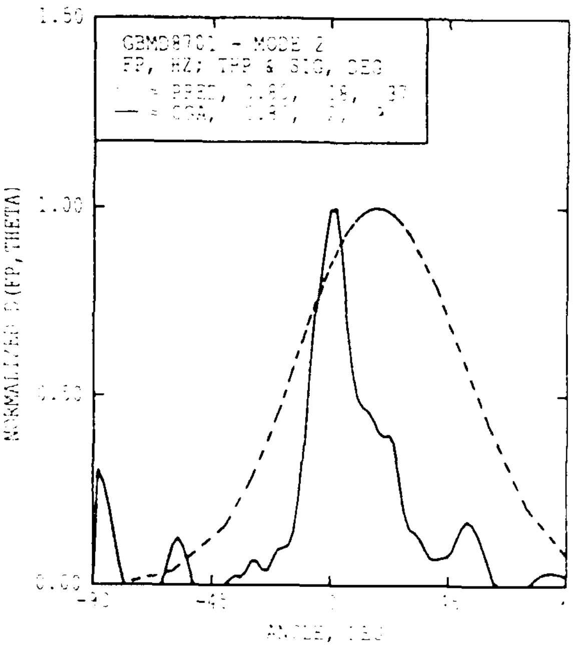
SPREADING & PEAK FREQ



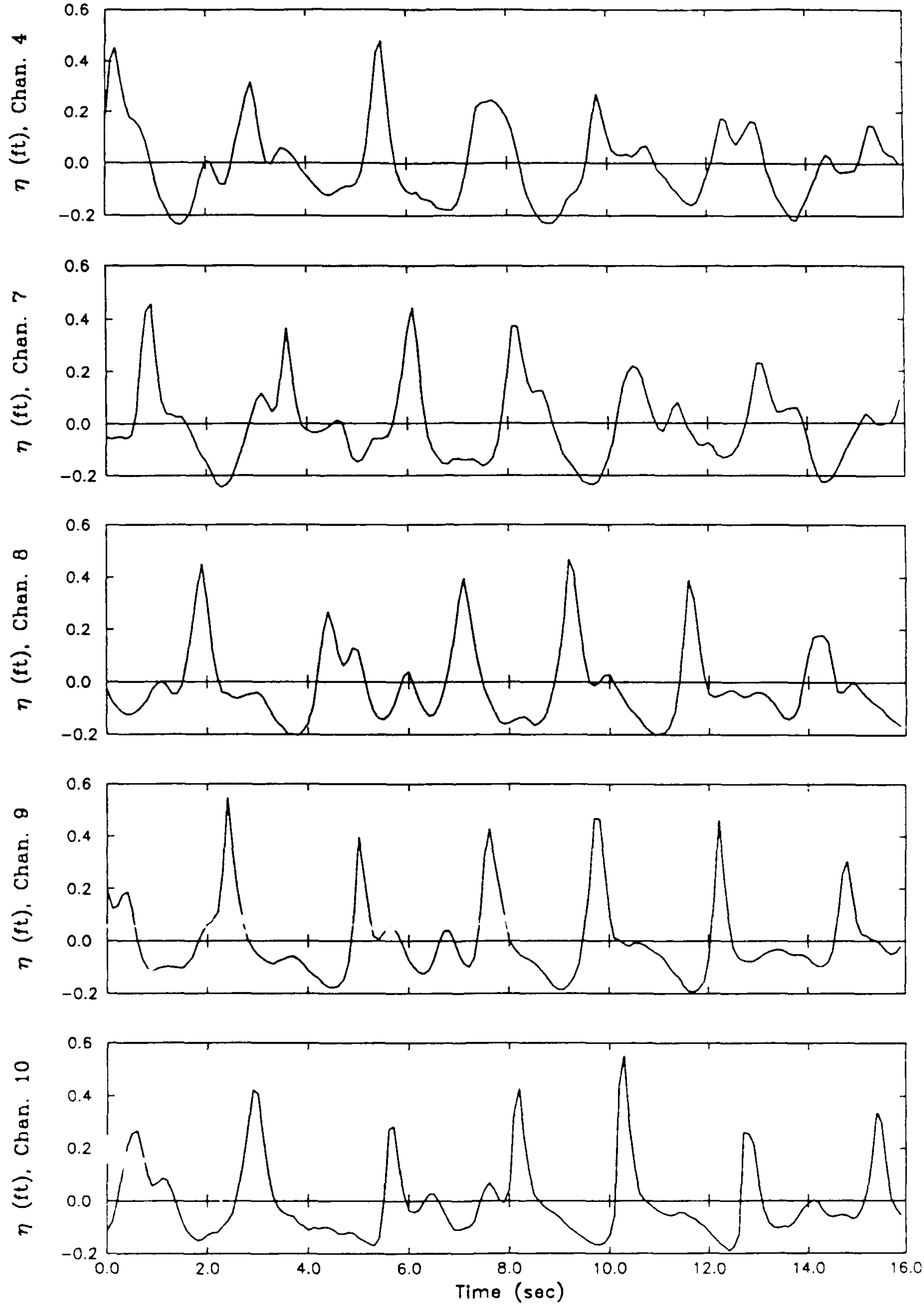
A) PRED. VS. OGA FREQUENCY SPECTRA
GAGE CODE = A



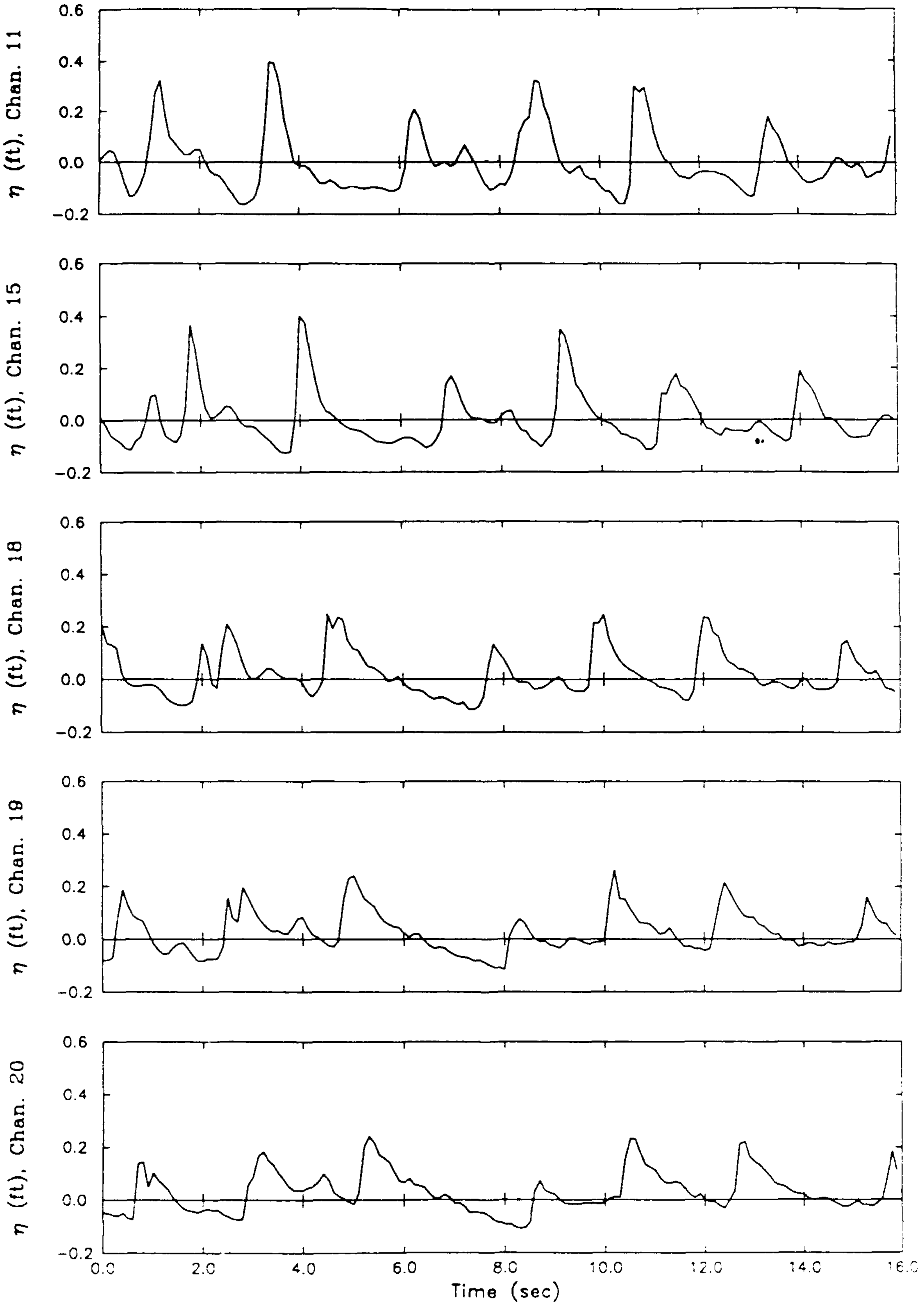
SPREADING @ PEAK FREQ



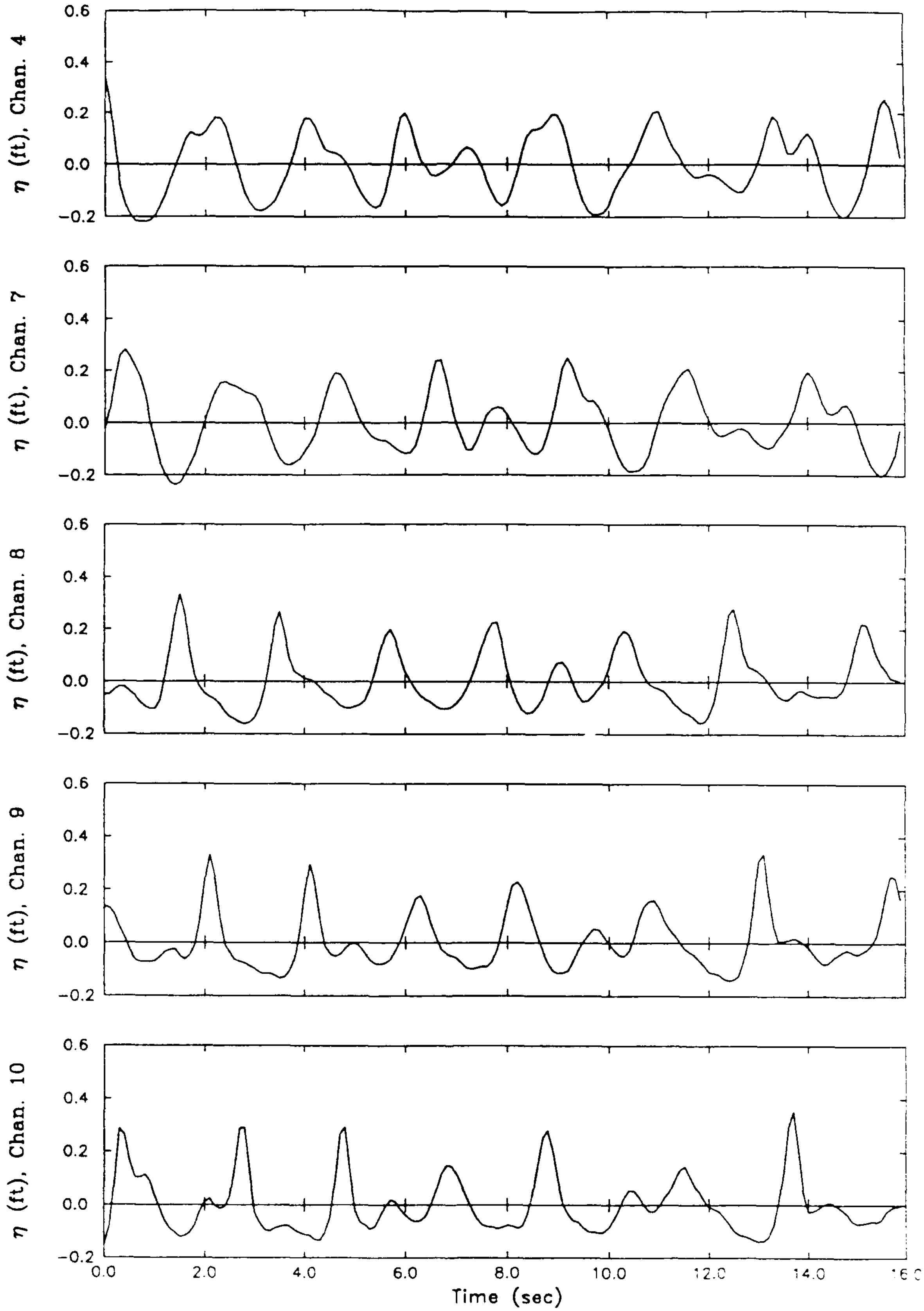
APPENDIX D: WAVE ELEVATION TIME SERIES



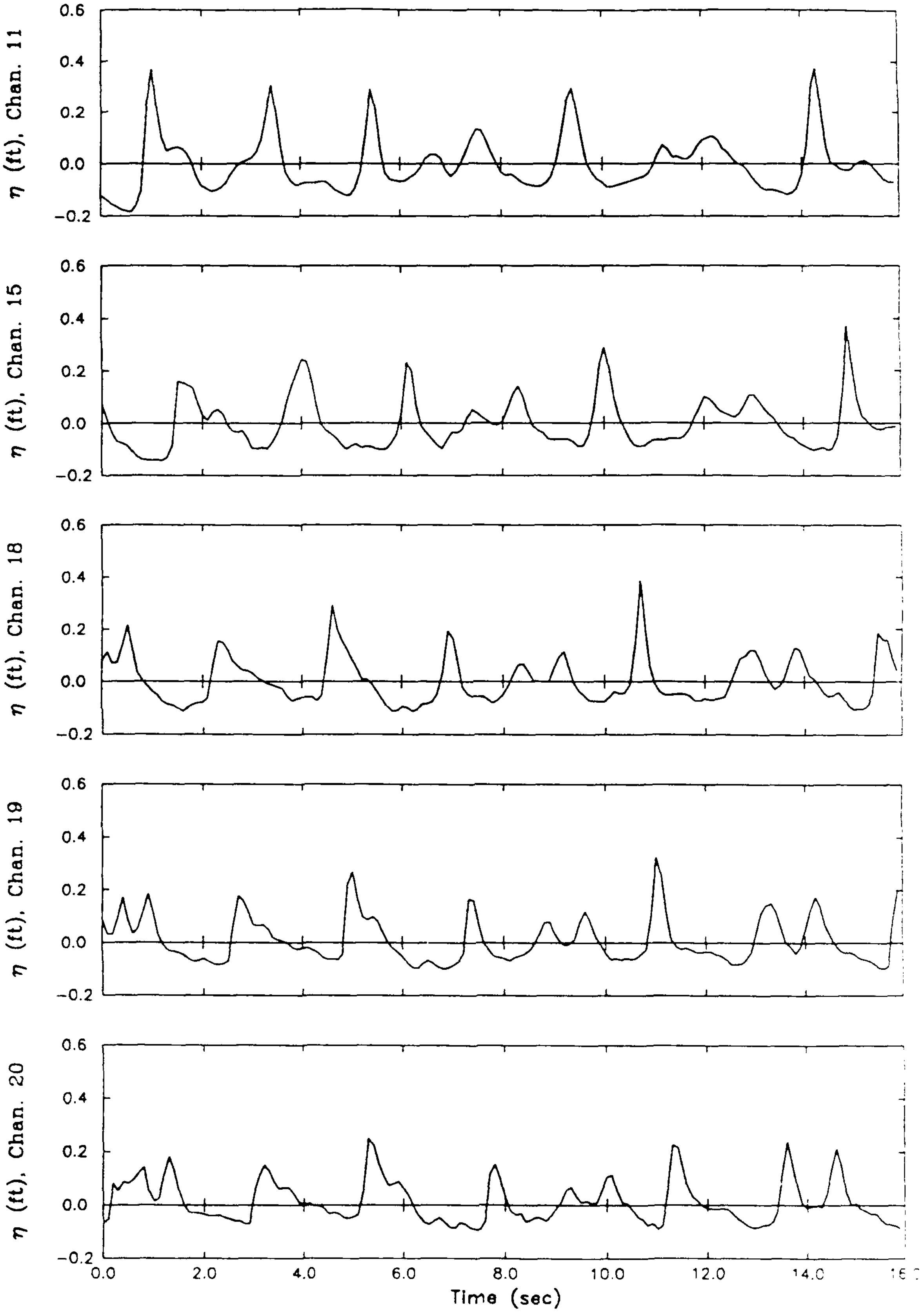
Generalized Beach Model, GBMS0105



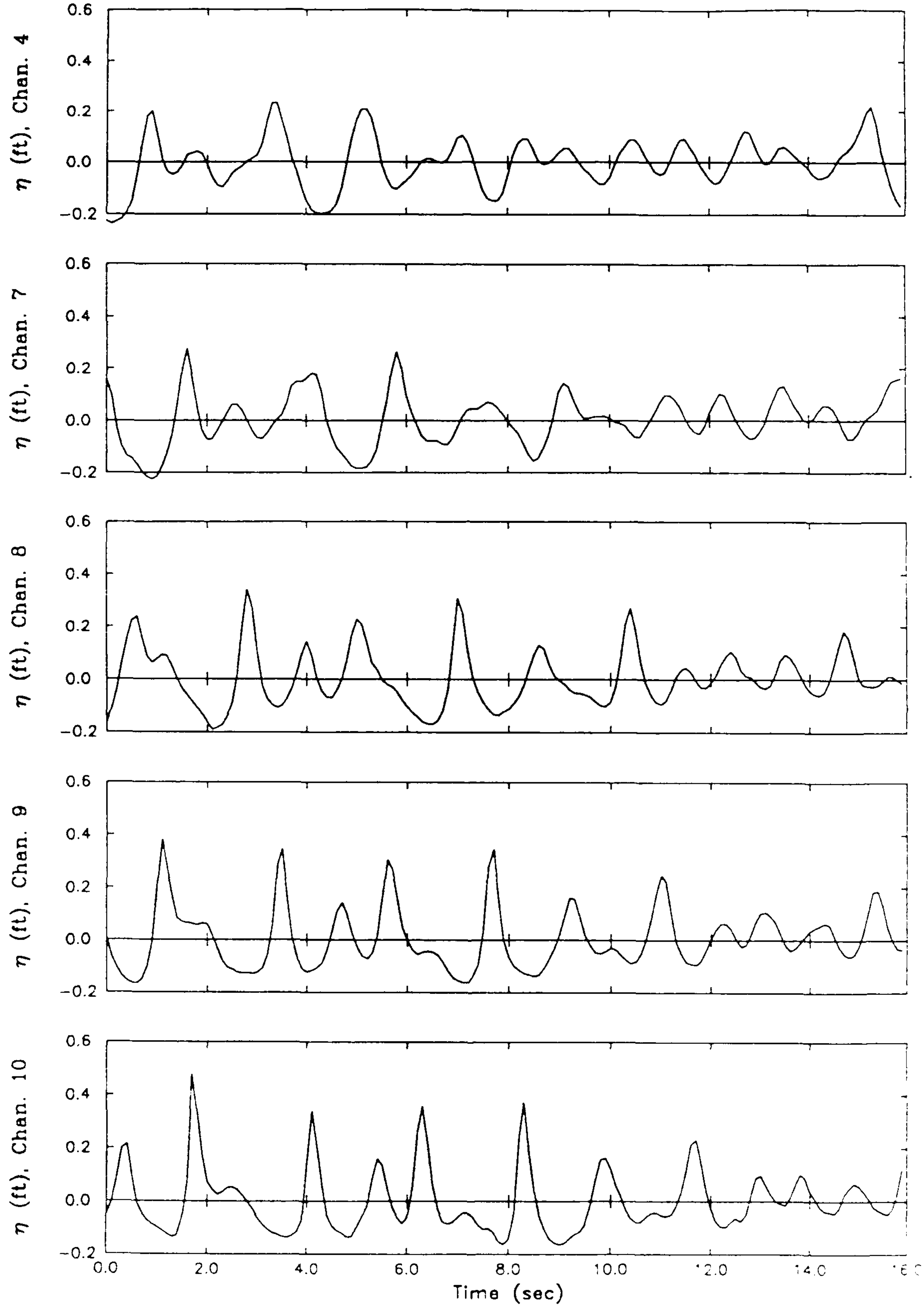
Generalized Beach Model, GBMS0105



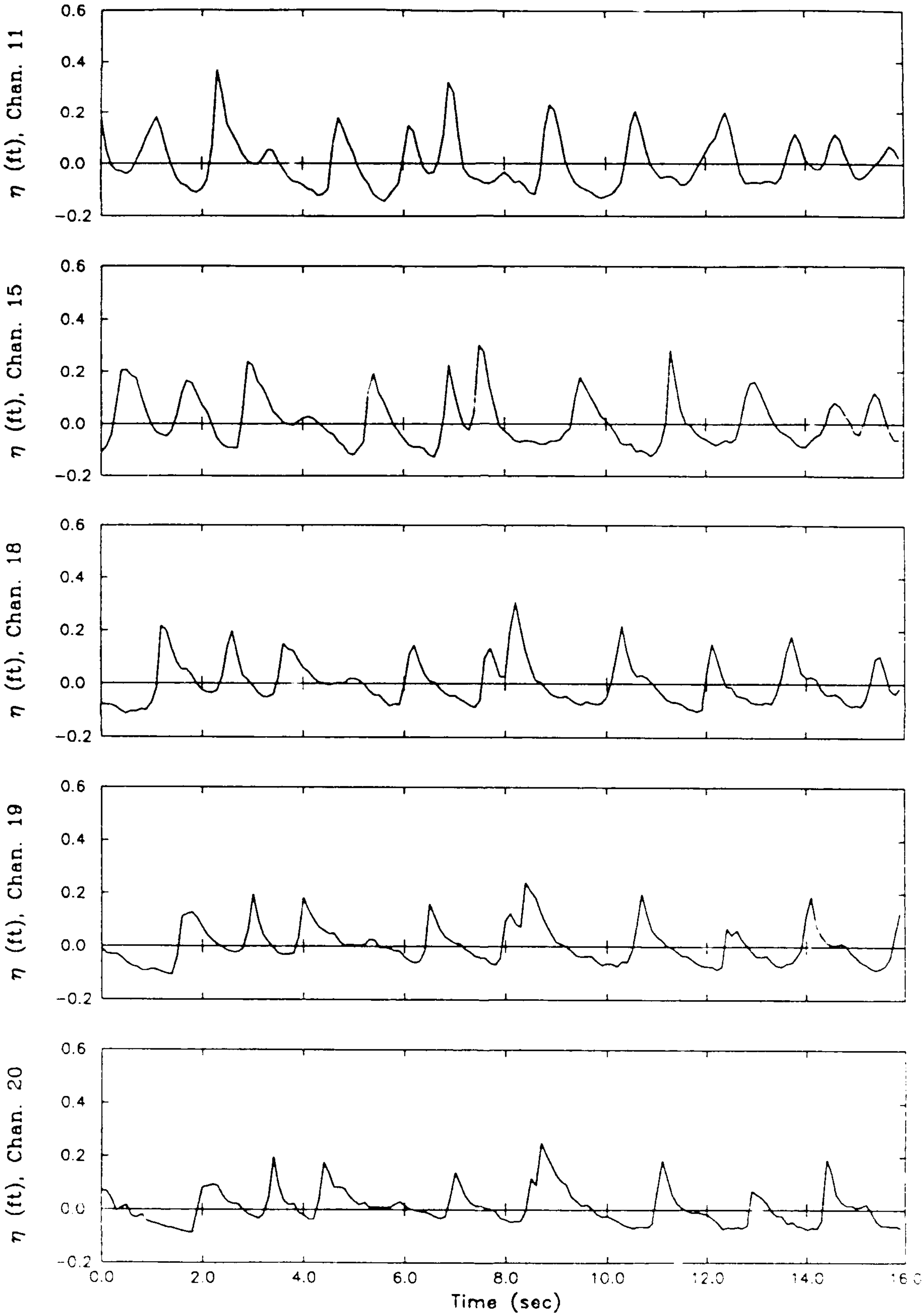
Generalized Beach Model, GBMS0905



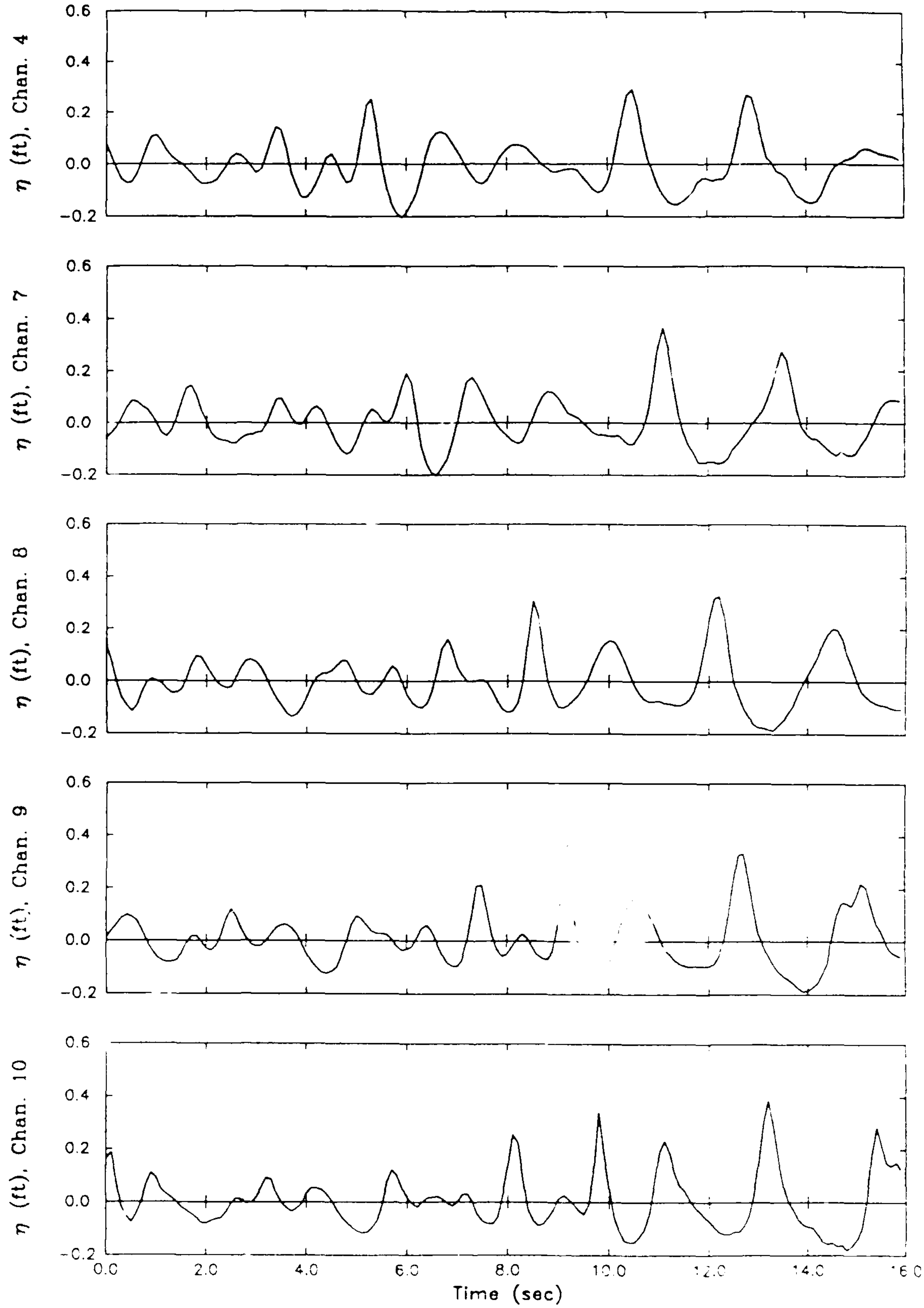
Generalized Beach Model, GBMS0905



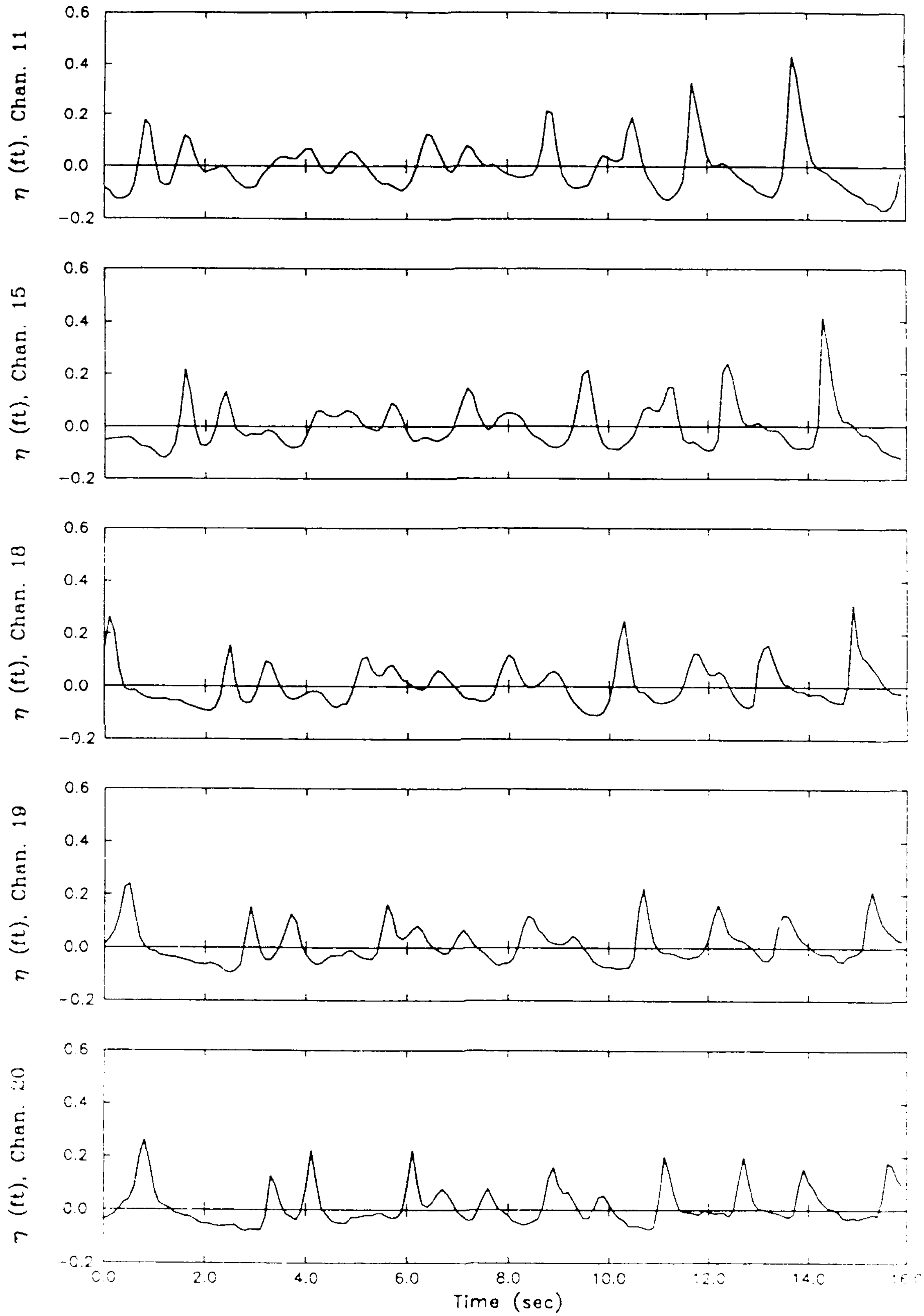
Generalized Beach Model, GBMS1305



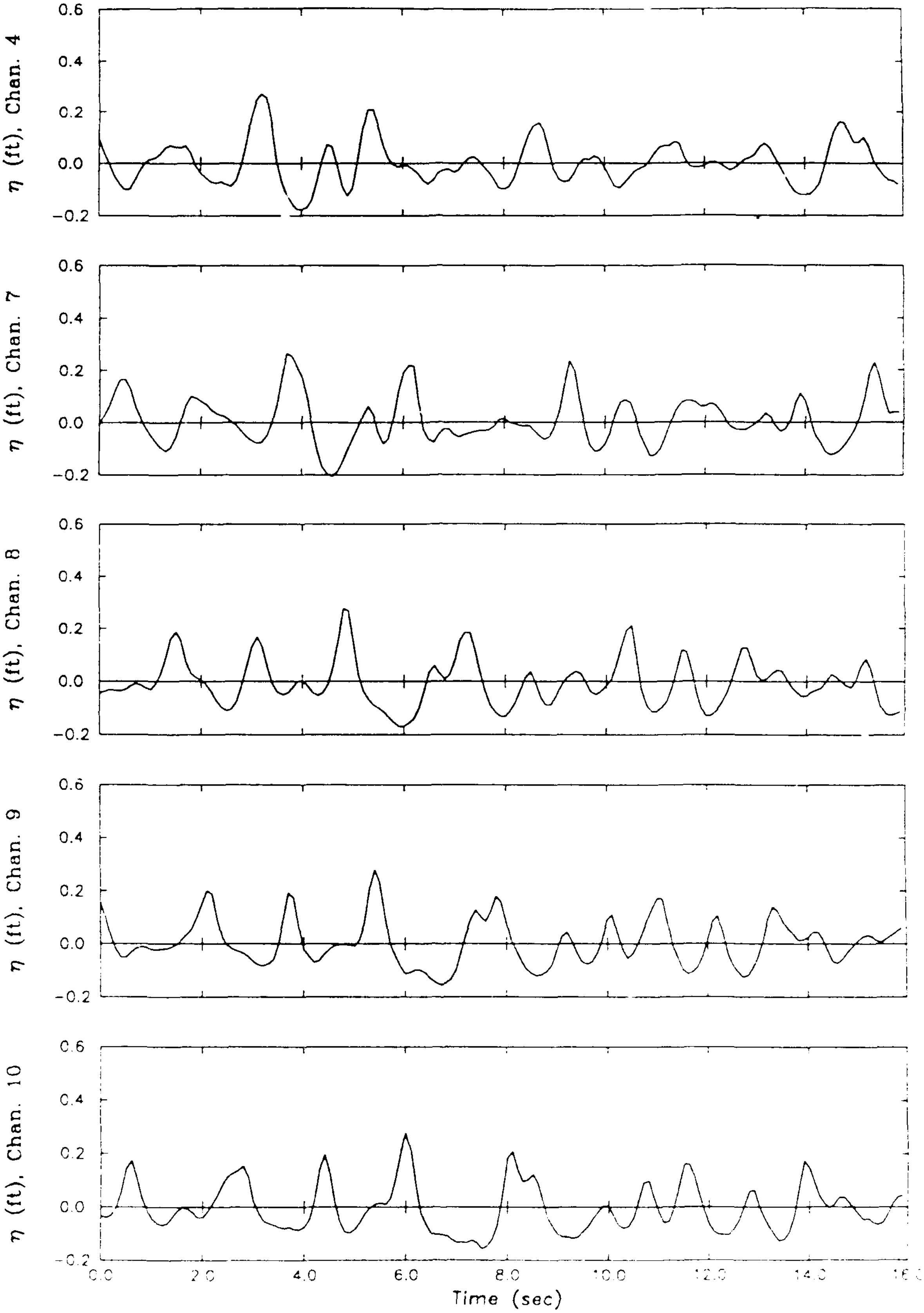
Generalized Beach Model, GBMS1305



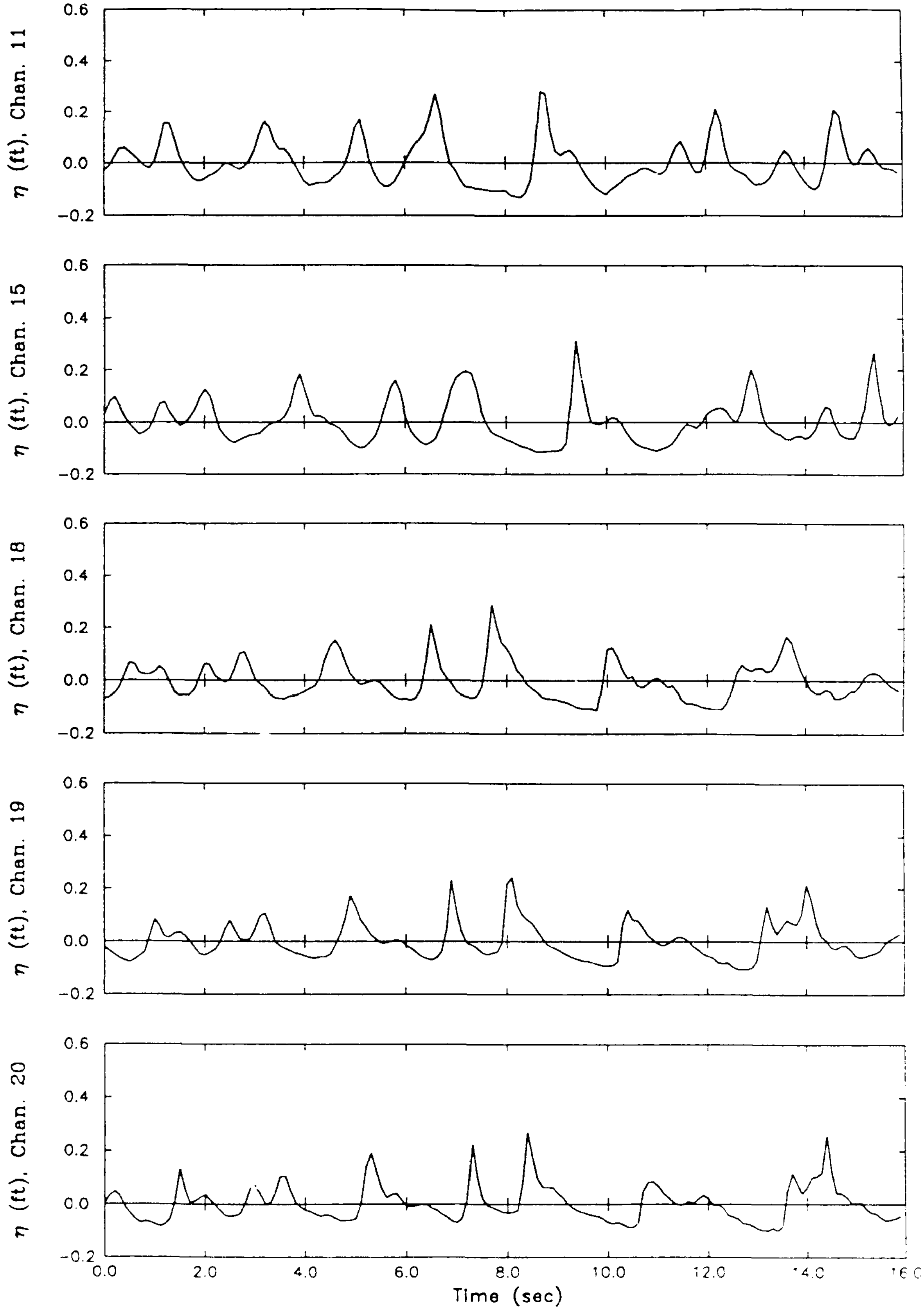
Generalized Beach Model, GBMS2105



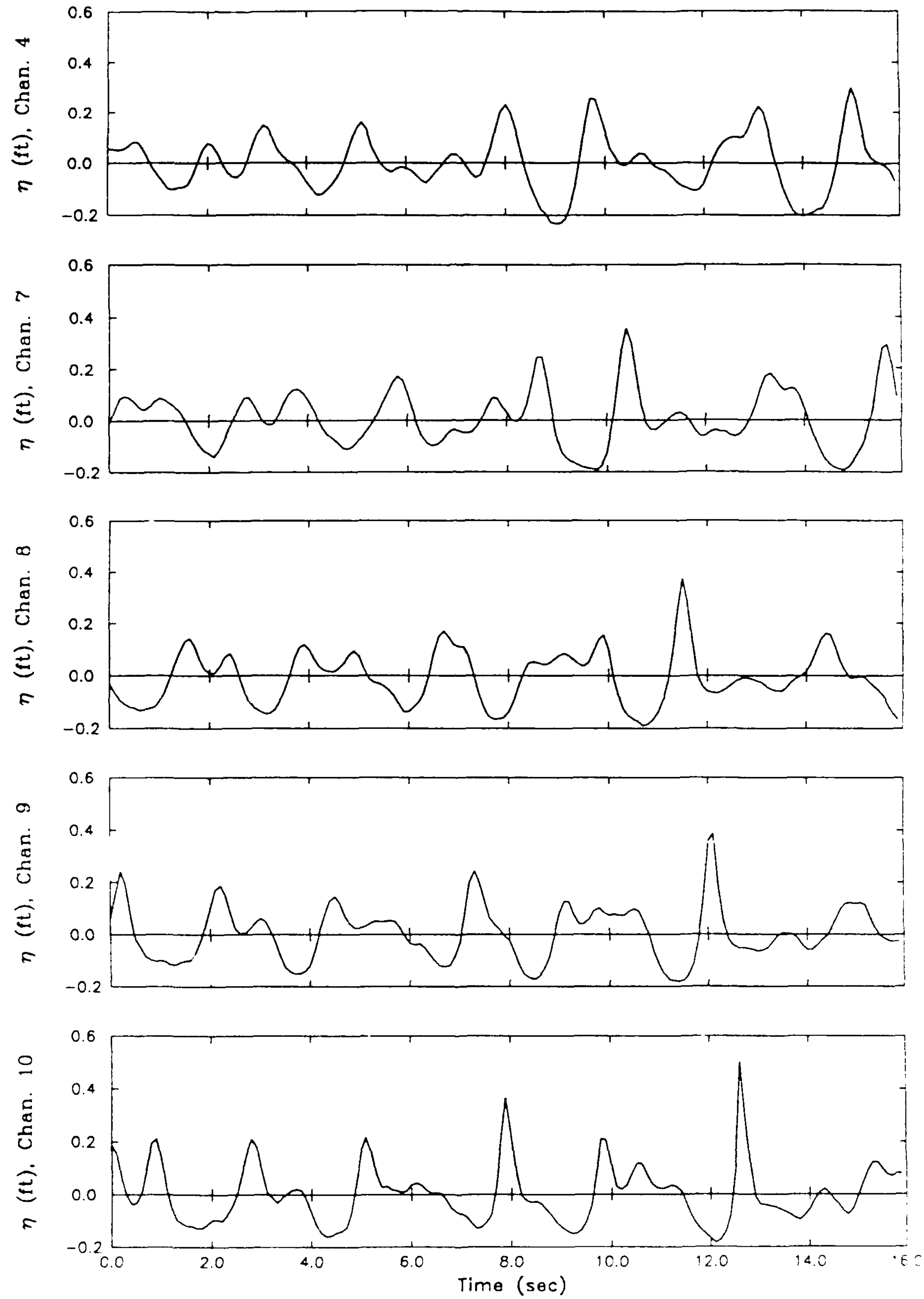
Generalized Beach Model, GBMS2105



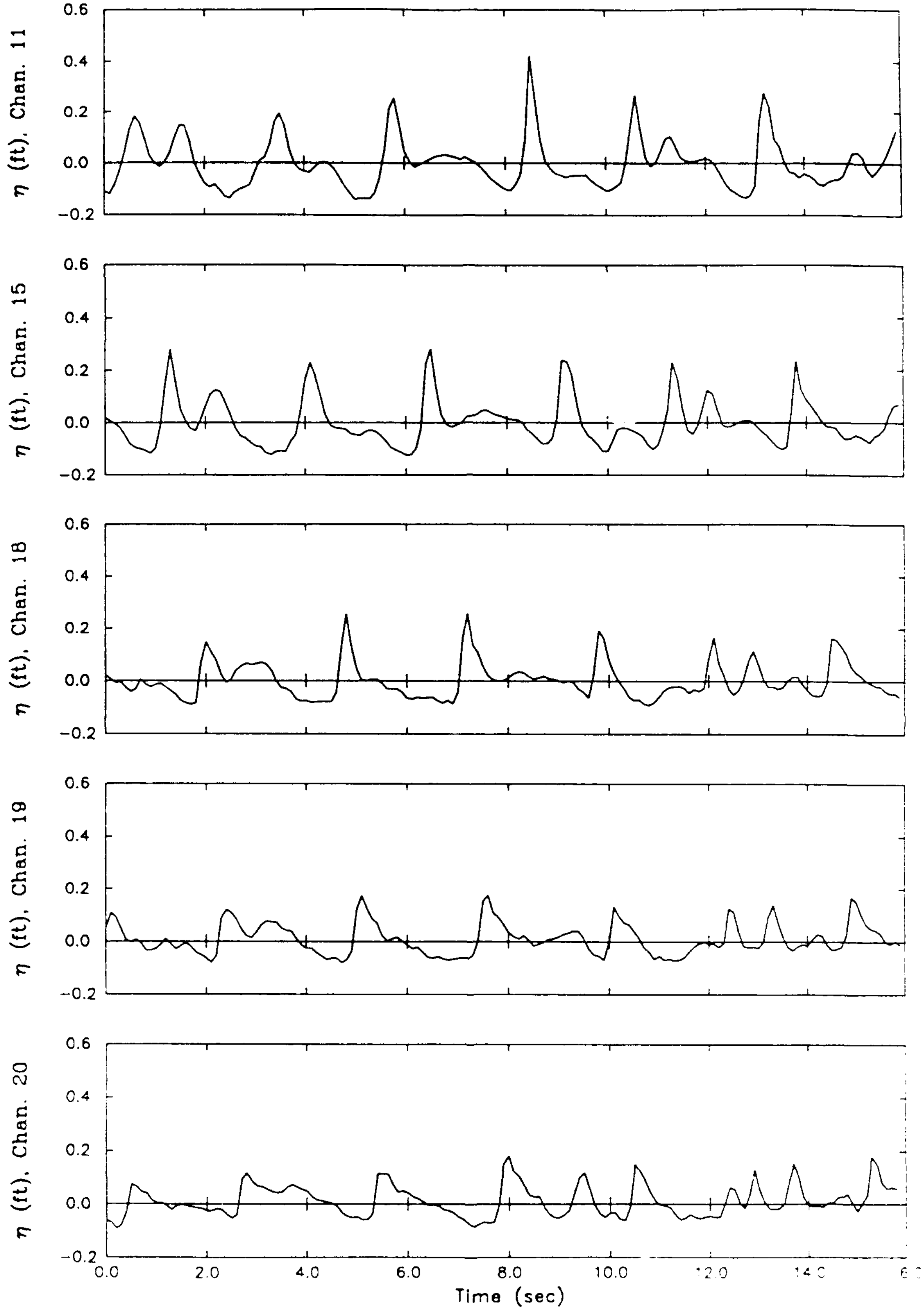
Generalized Beach Model, GBMS2505



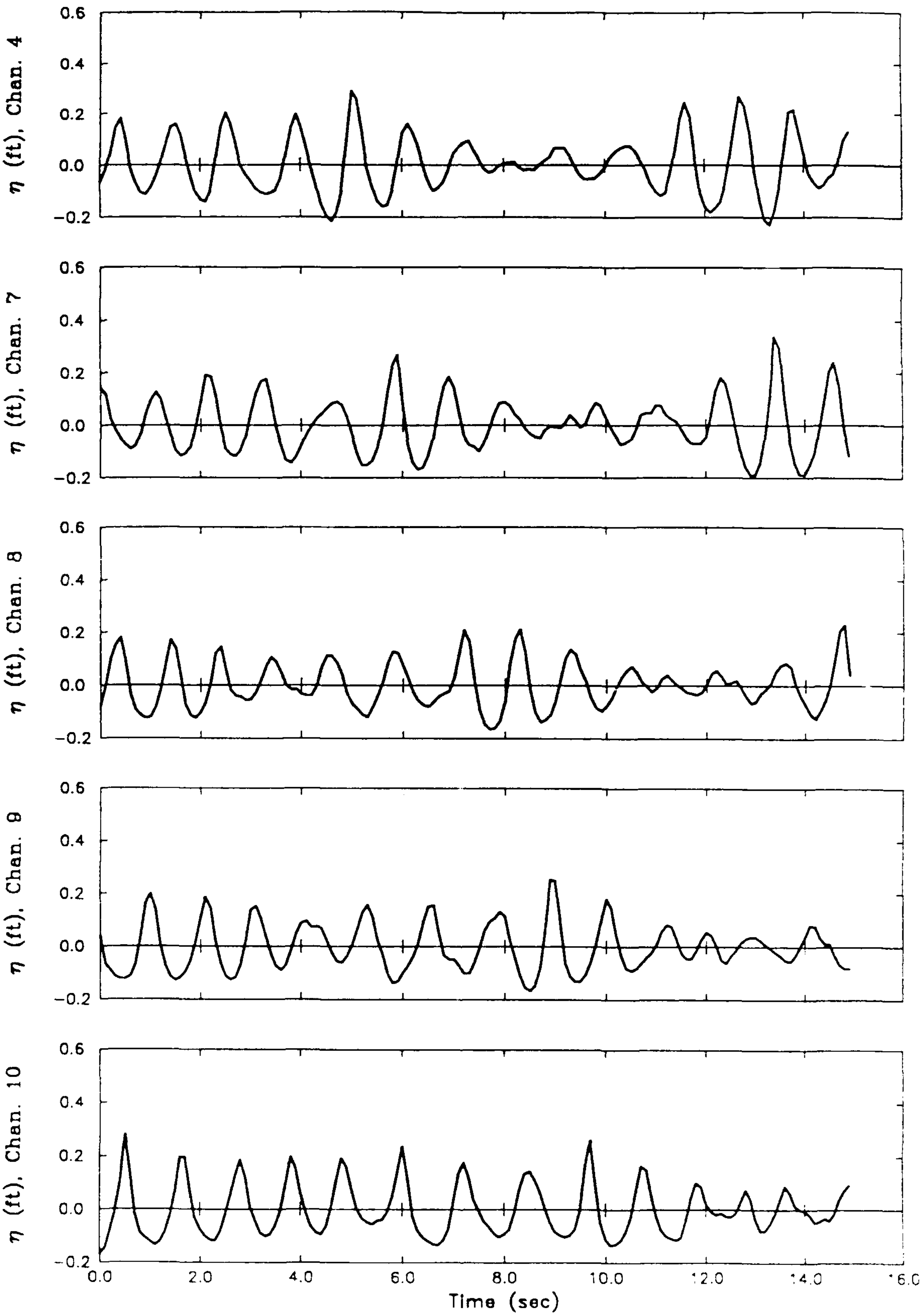
Generalized Beach Model, GBMS2505



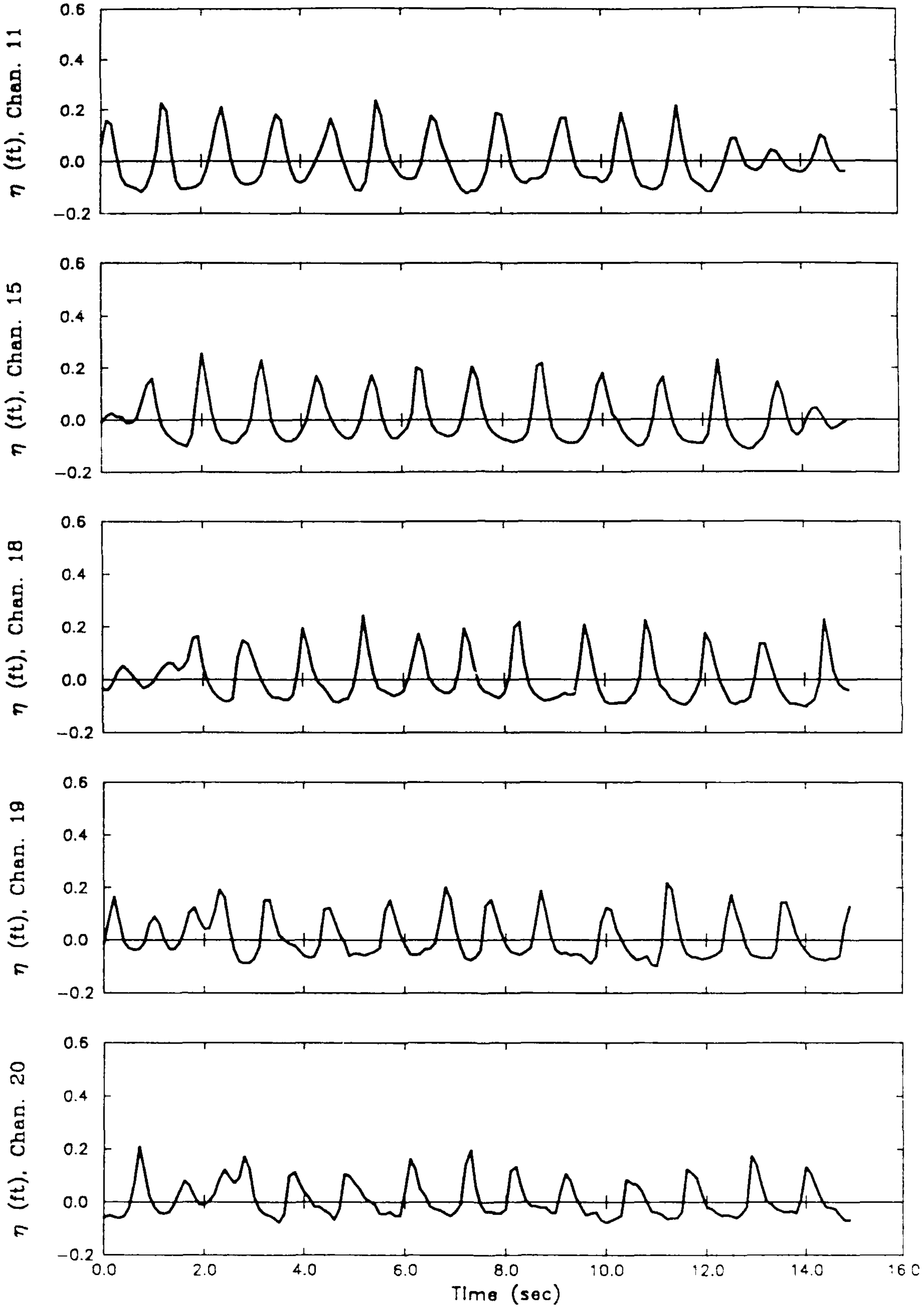
Generalized Beach Model, GBMS3305



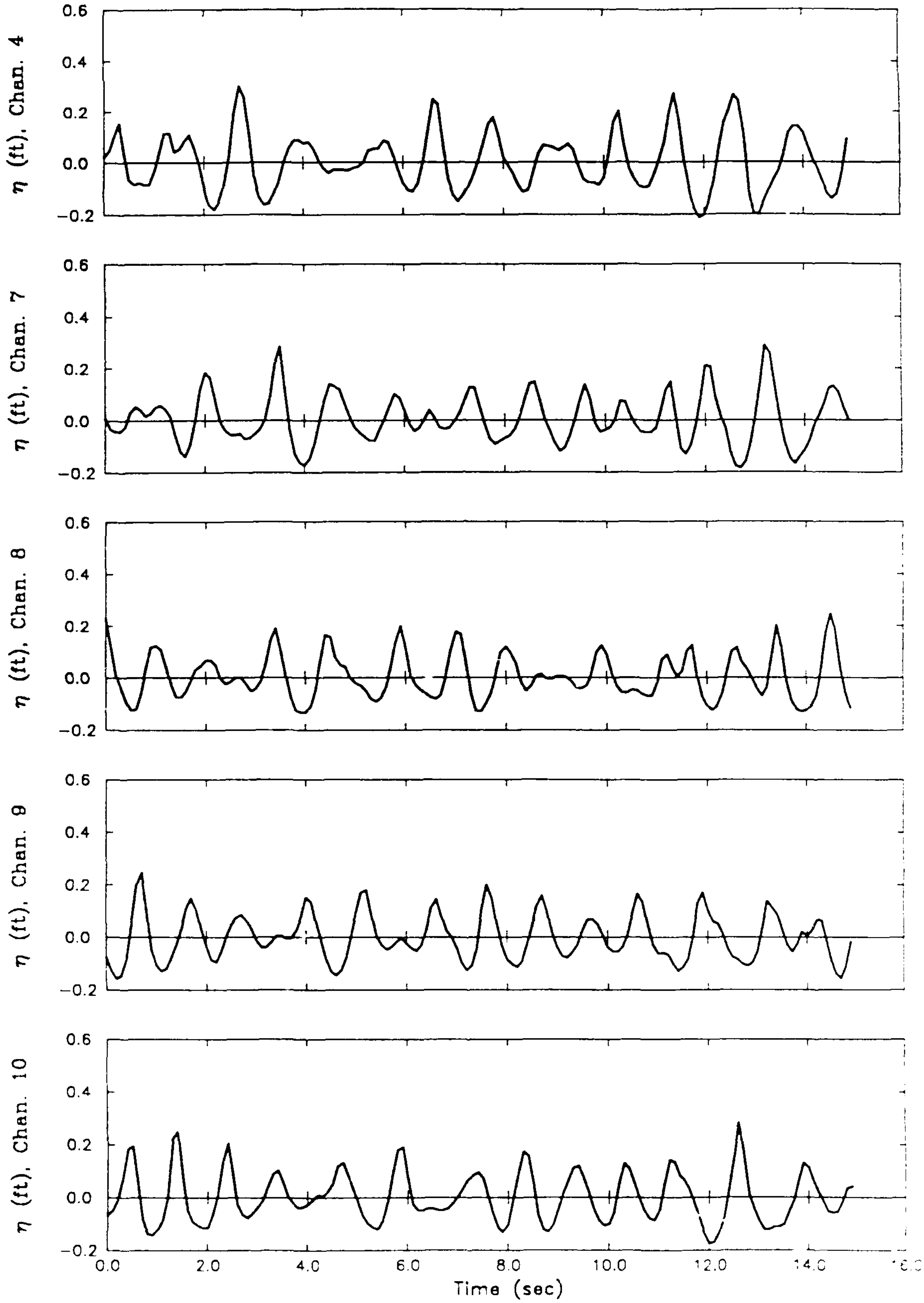
Generalized Beach Model, GBMS3305



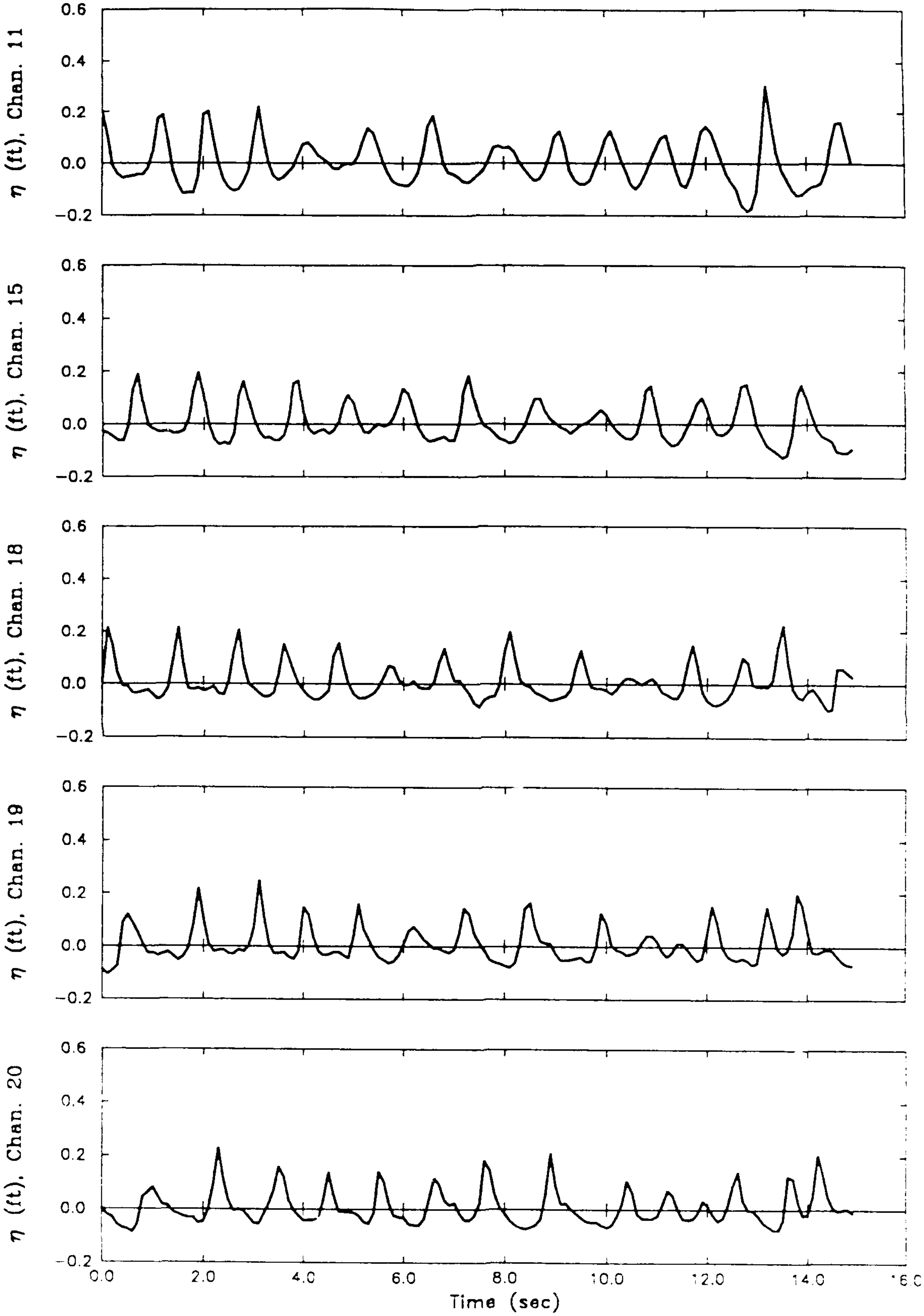
Generalized Beach Model, GBMS3705



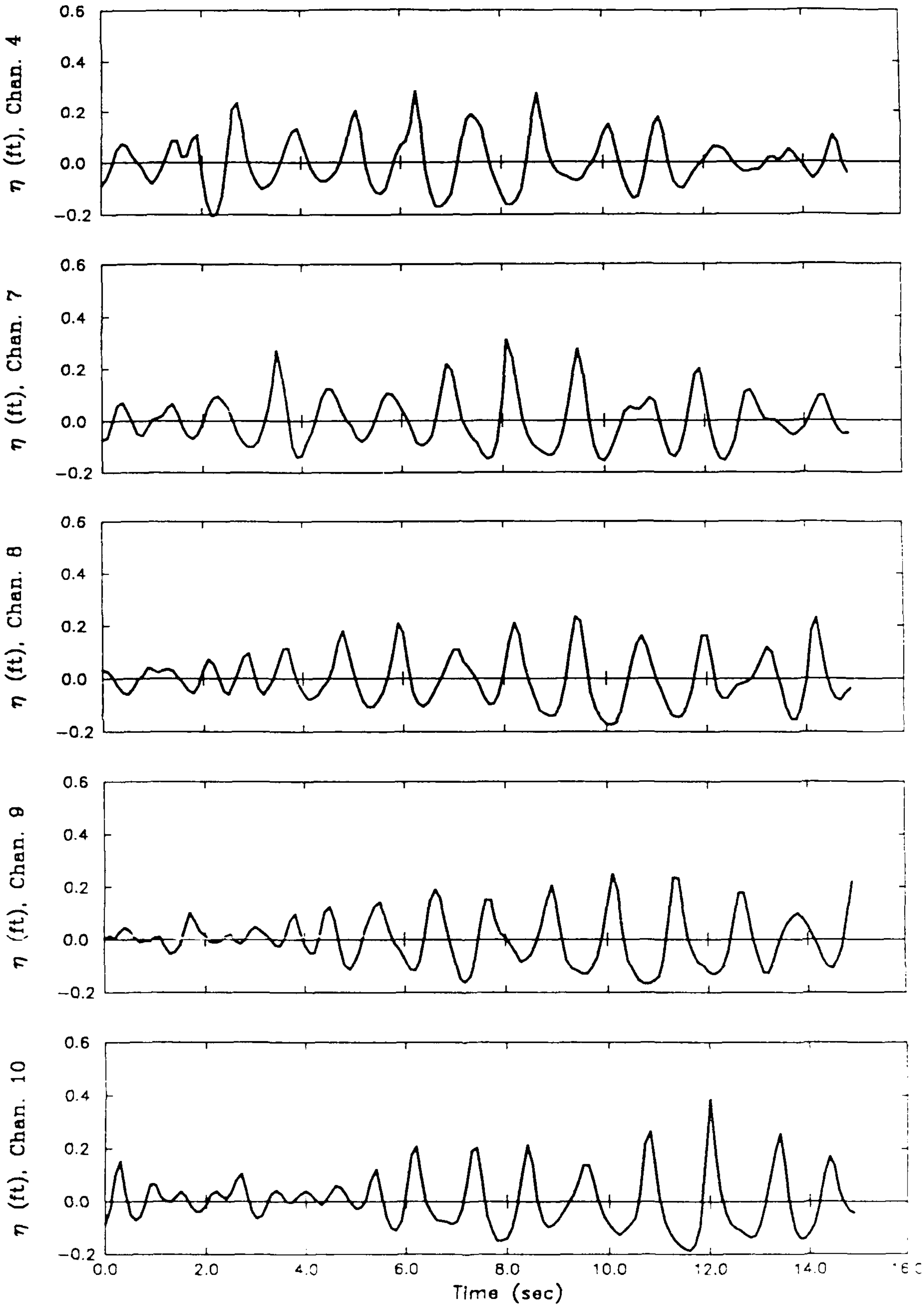
Generalized Beach Model, GBMS3705



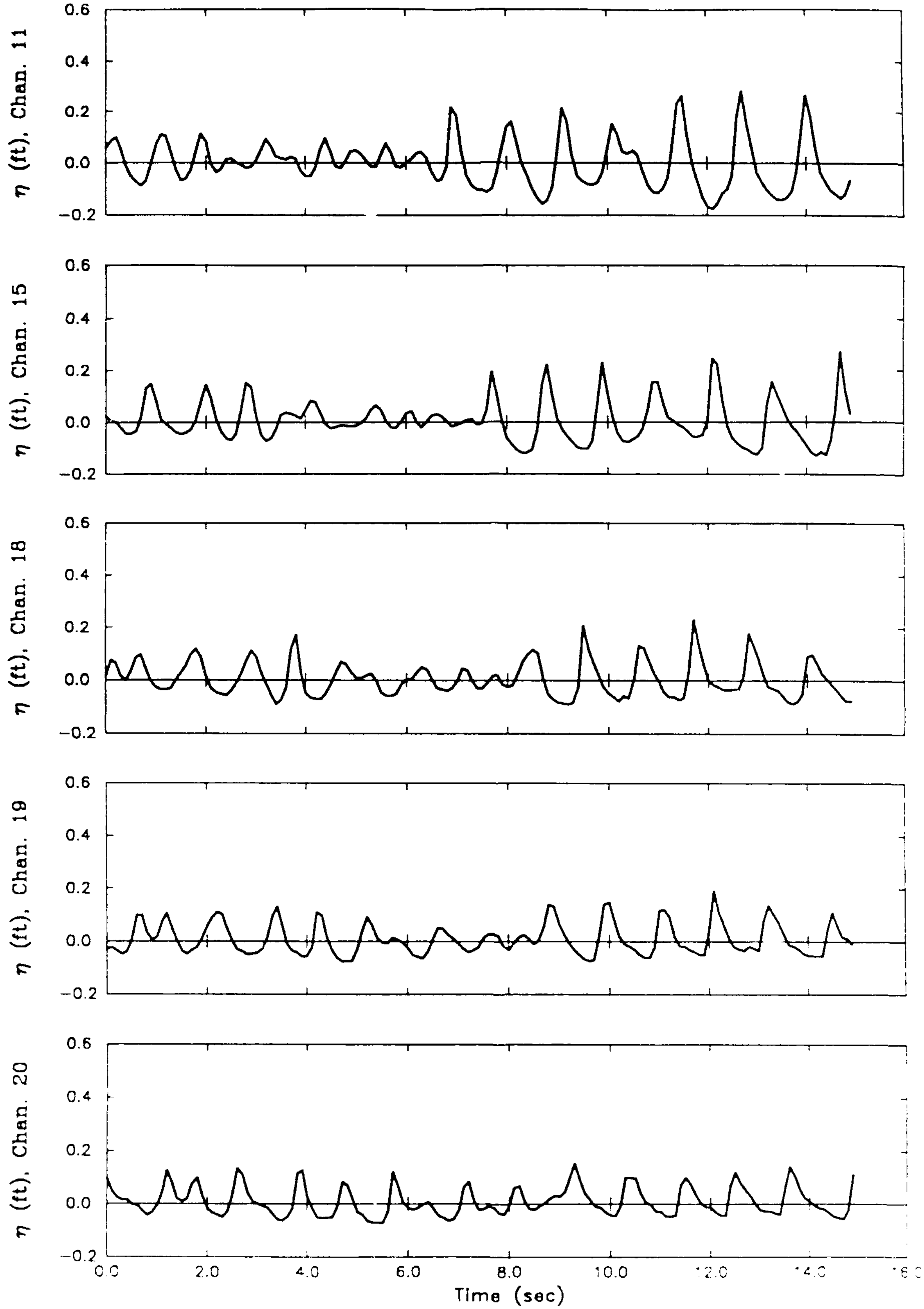
Generalized Beach Model, GBMS4505



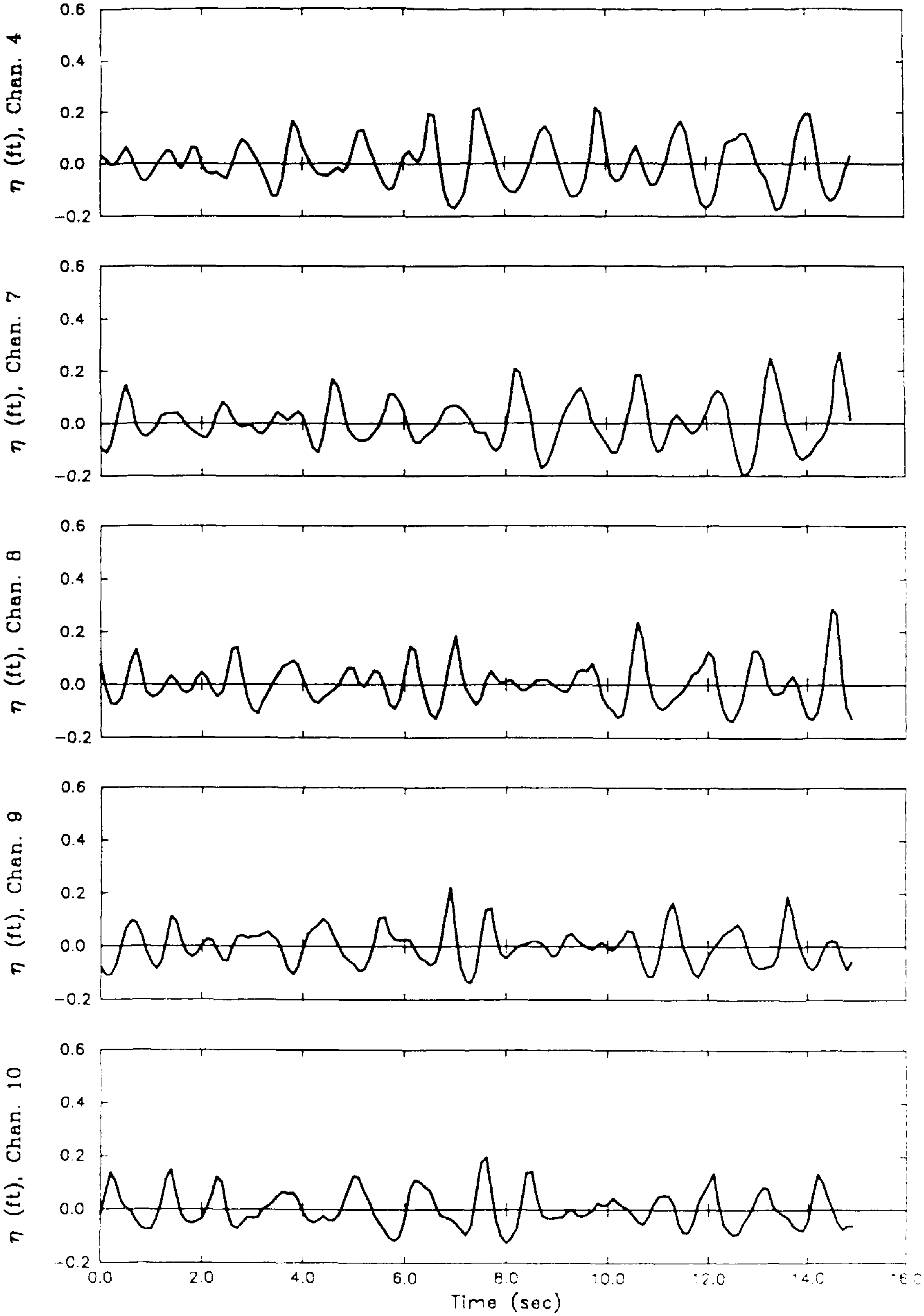
Generalized Beach Model, GBMS4505



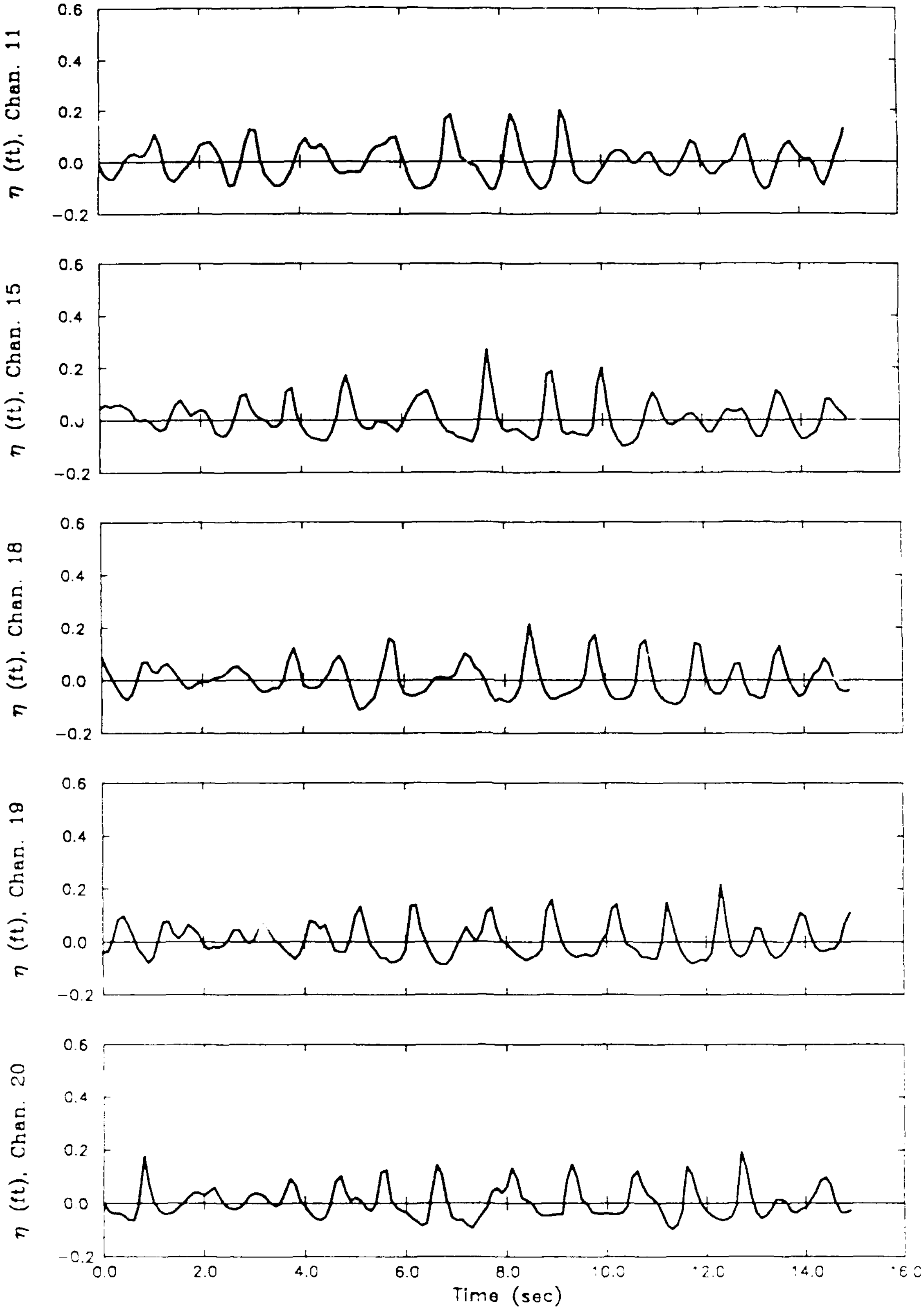
Generalized Beach Model, GBMS4905



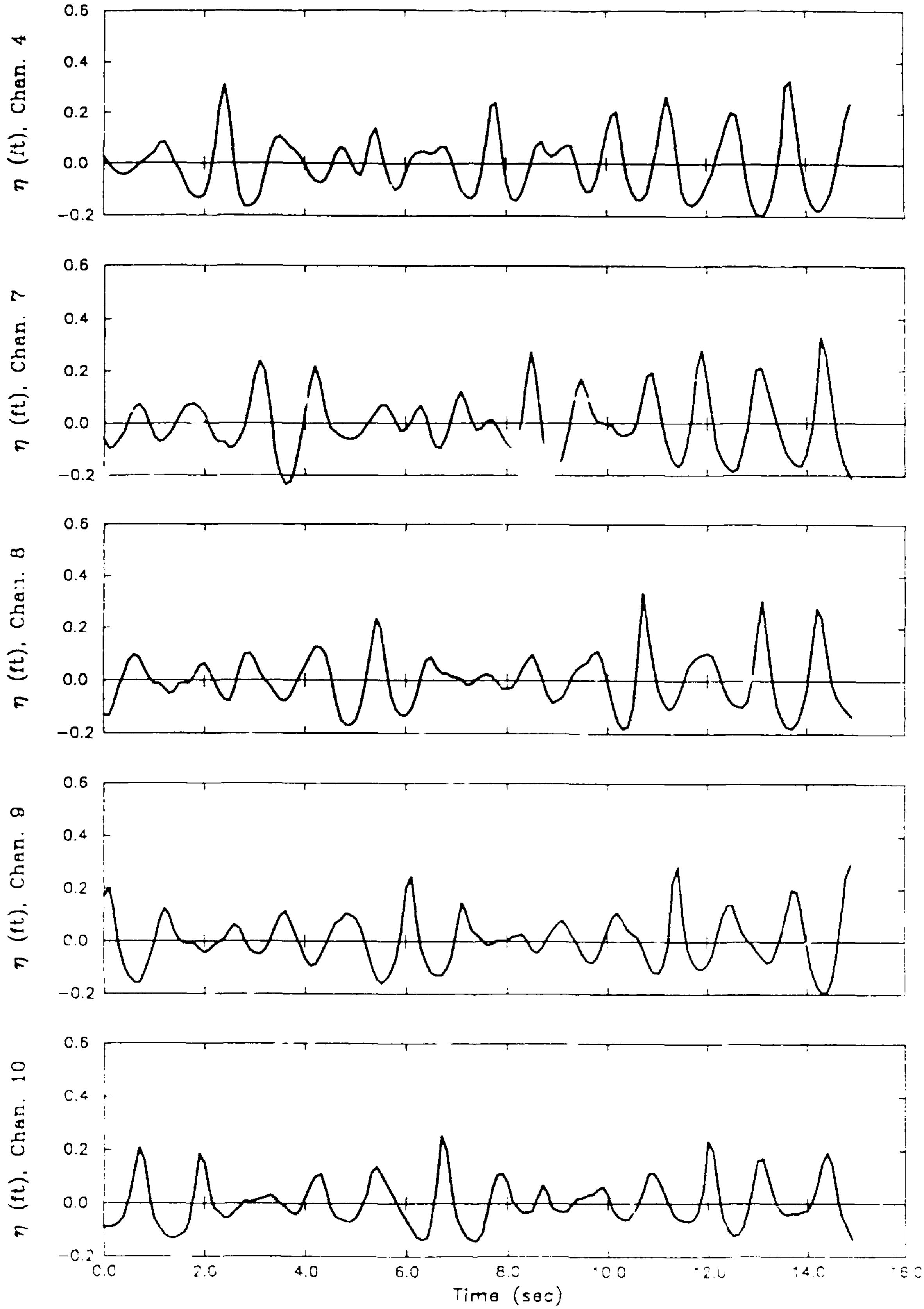
Generalized Beach Model, GBMS4905



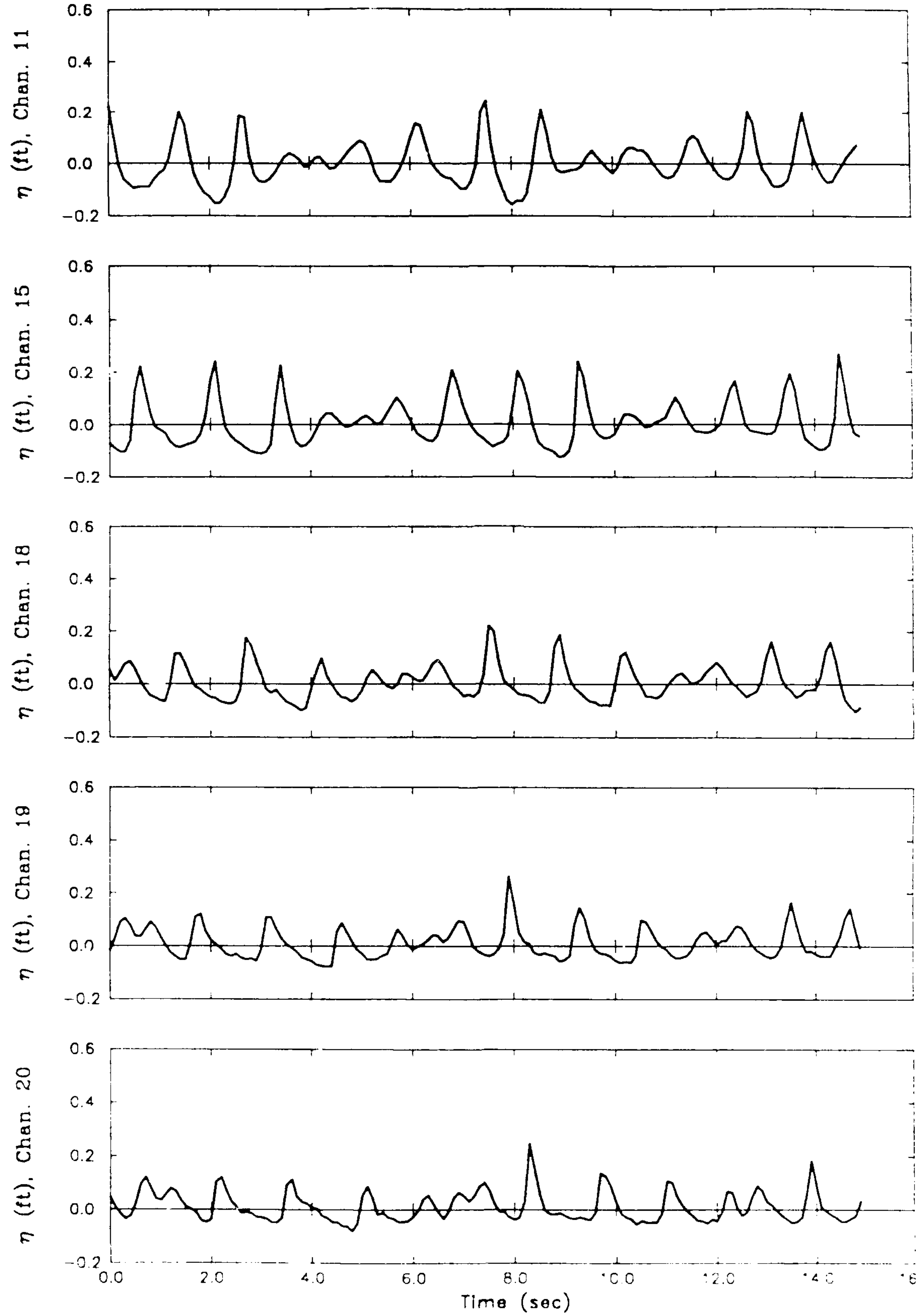
Generalized Beach Model, GBMS5705



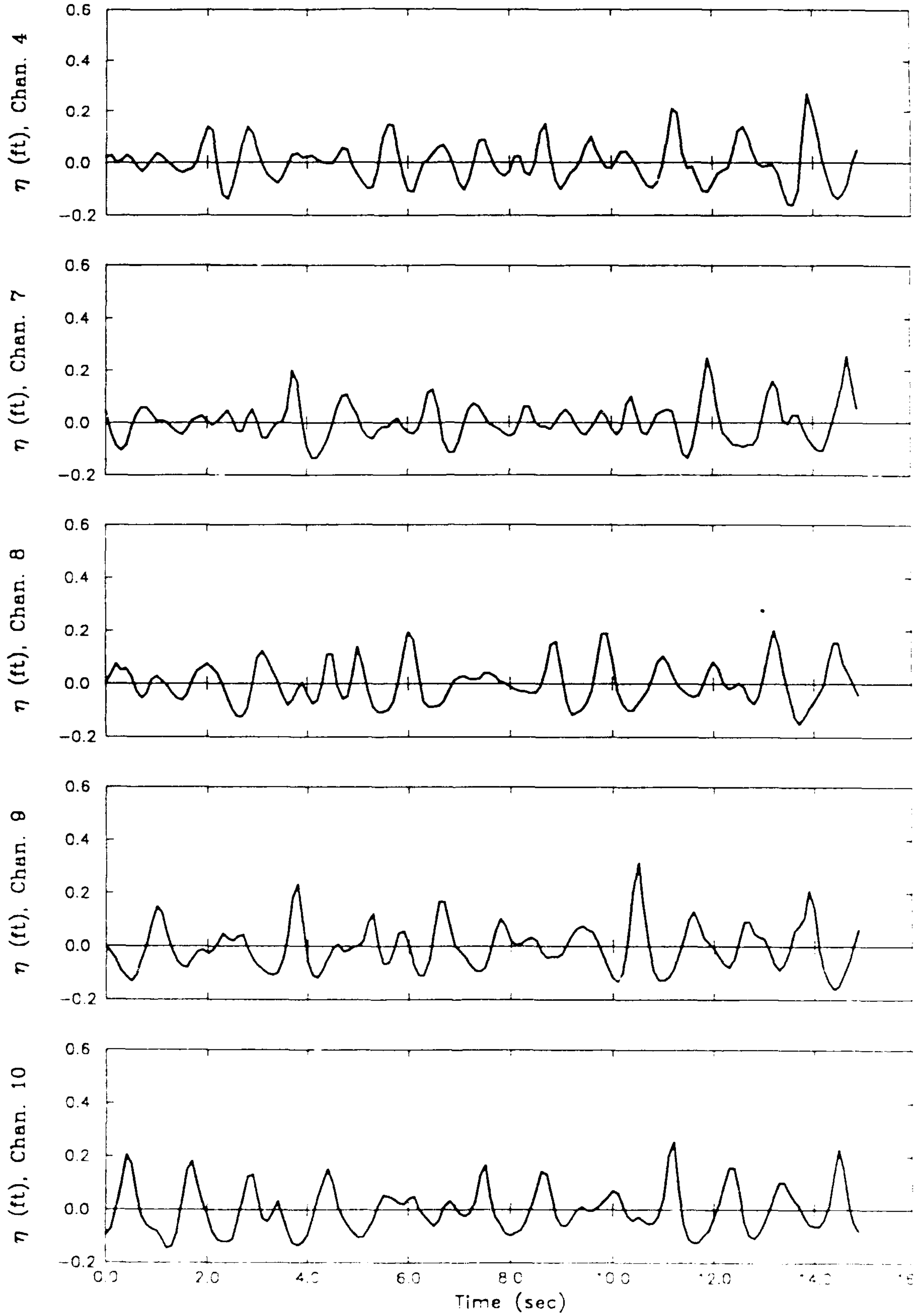
Generalized Beach Model, GBMS5705



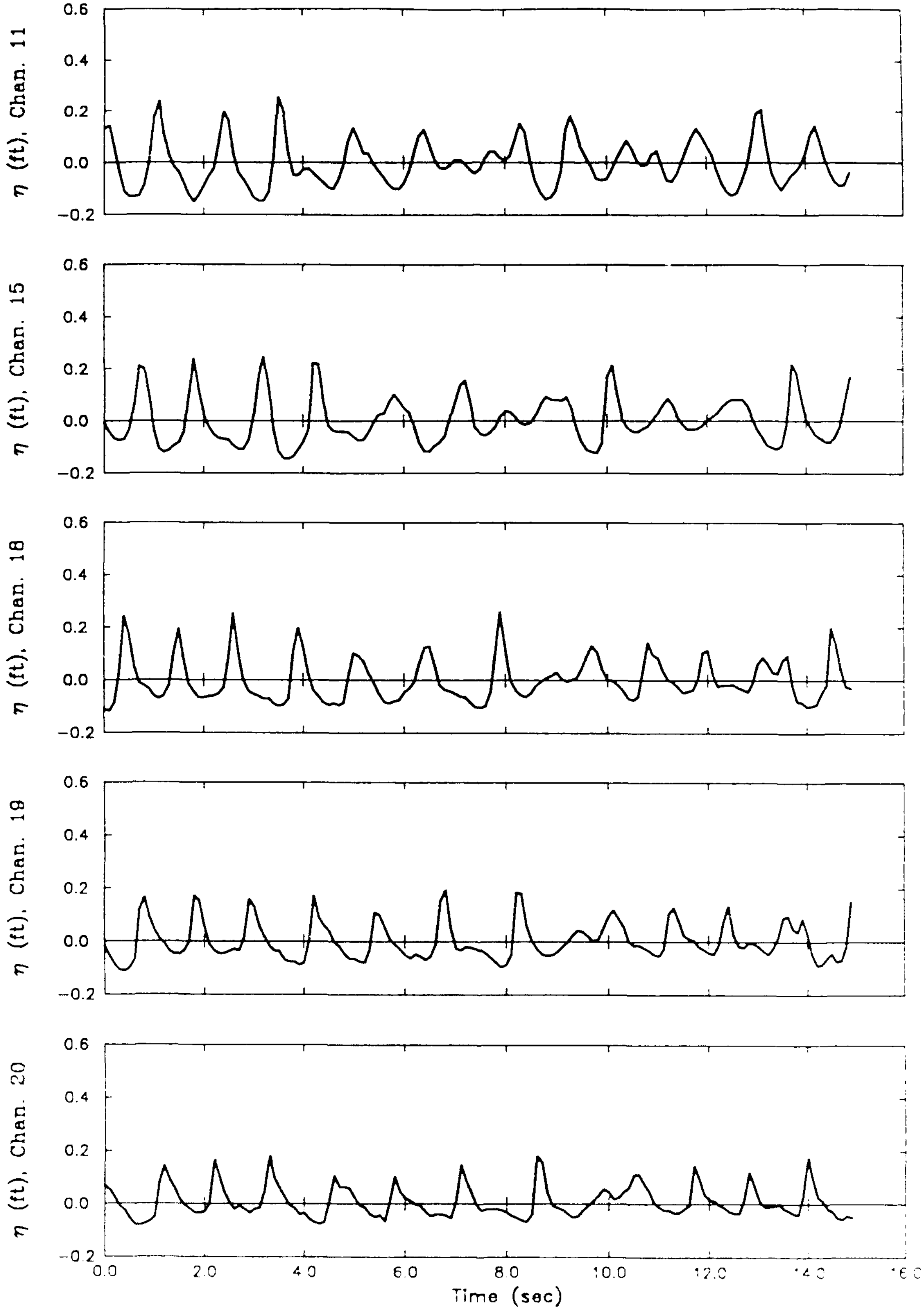
Generalized Beach Model, GBMS6105



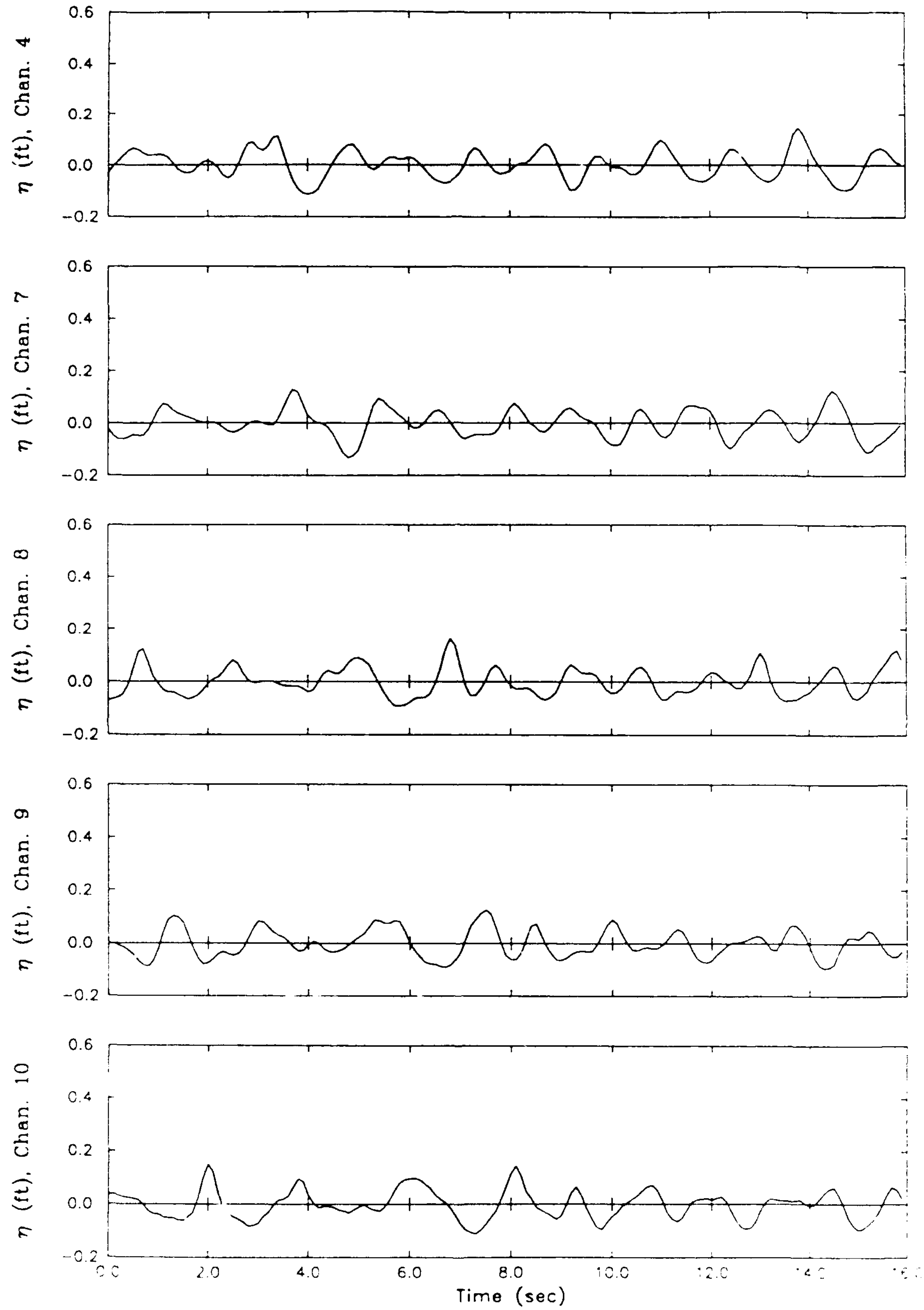
Generalized Beach Model, GBMS6105



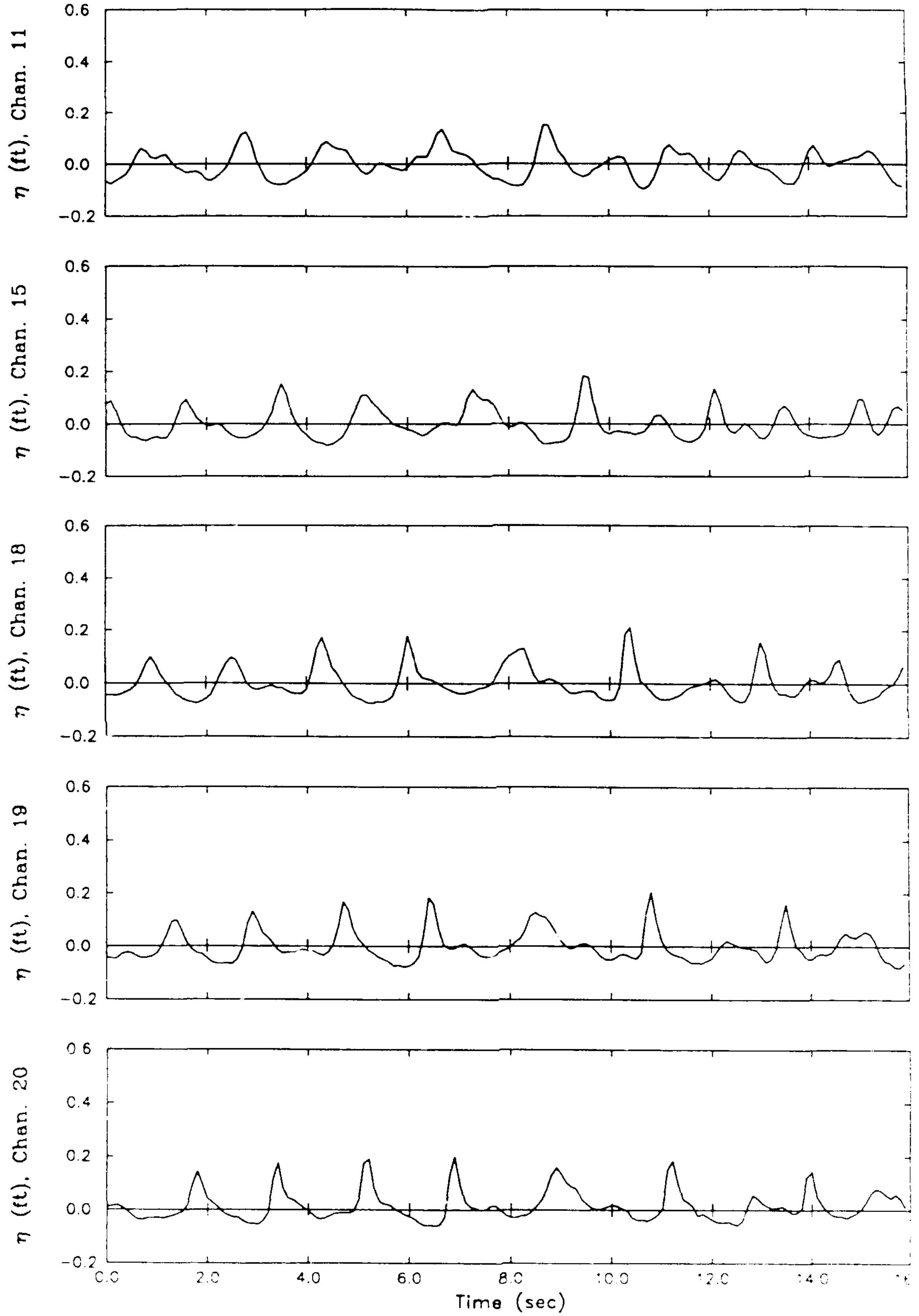
Generalized Beach Model, GBMS6905



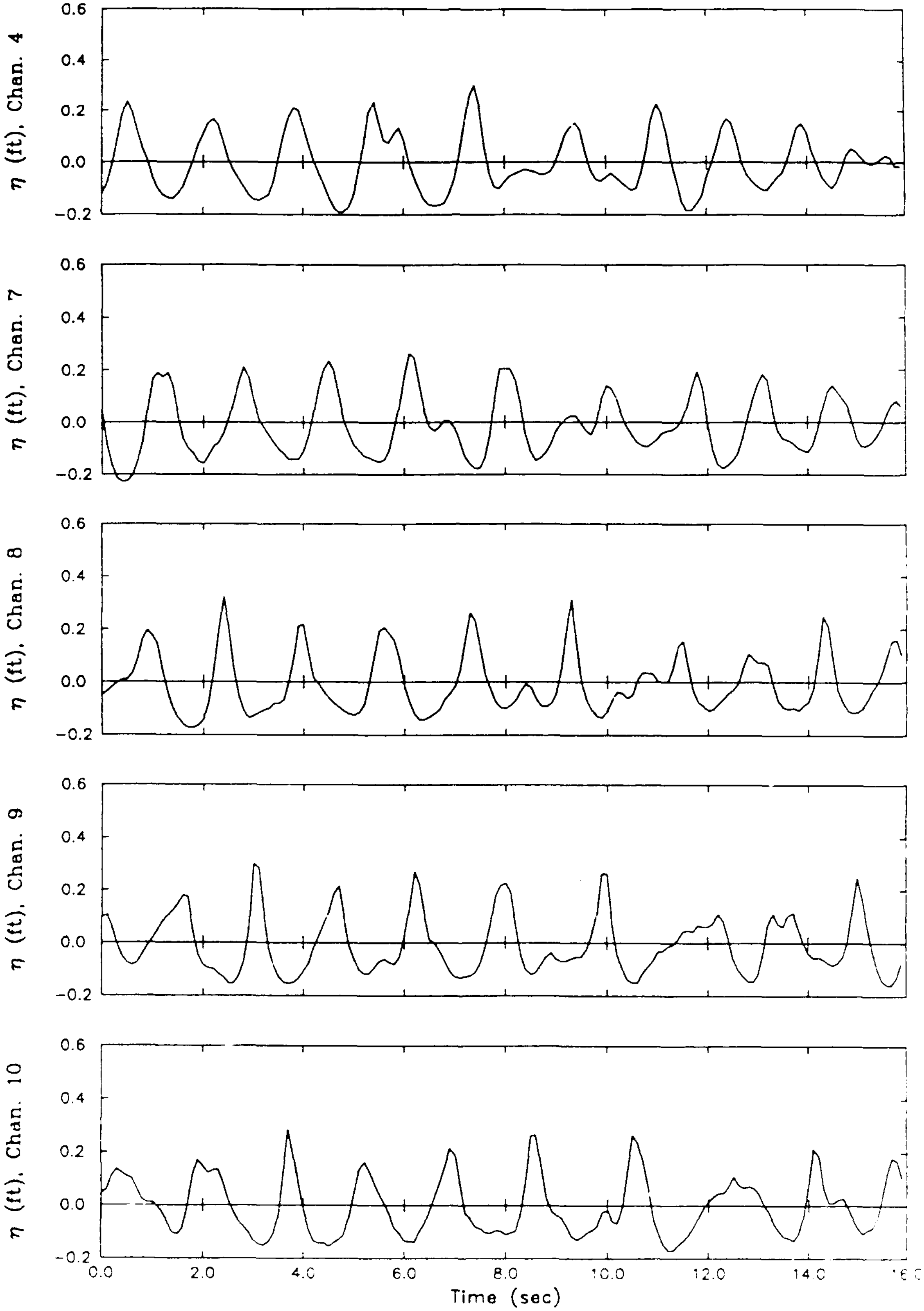
Generalized Beach Model, GBMS6905



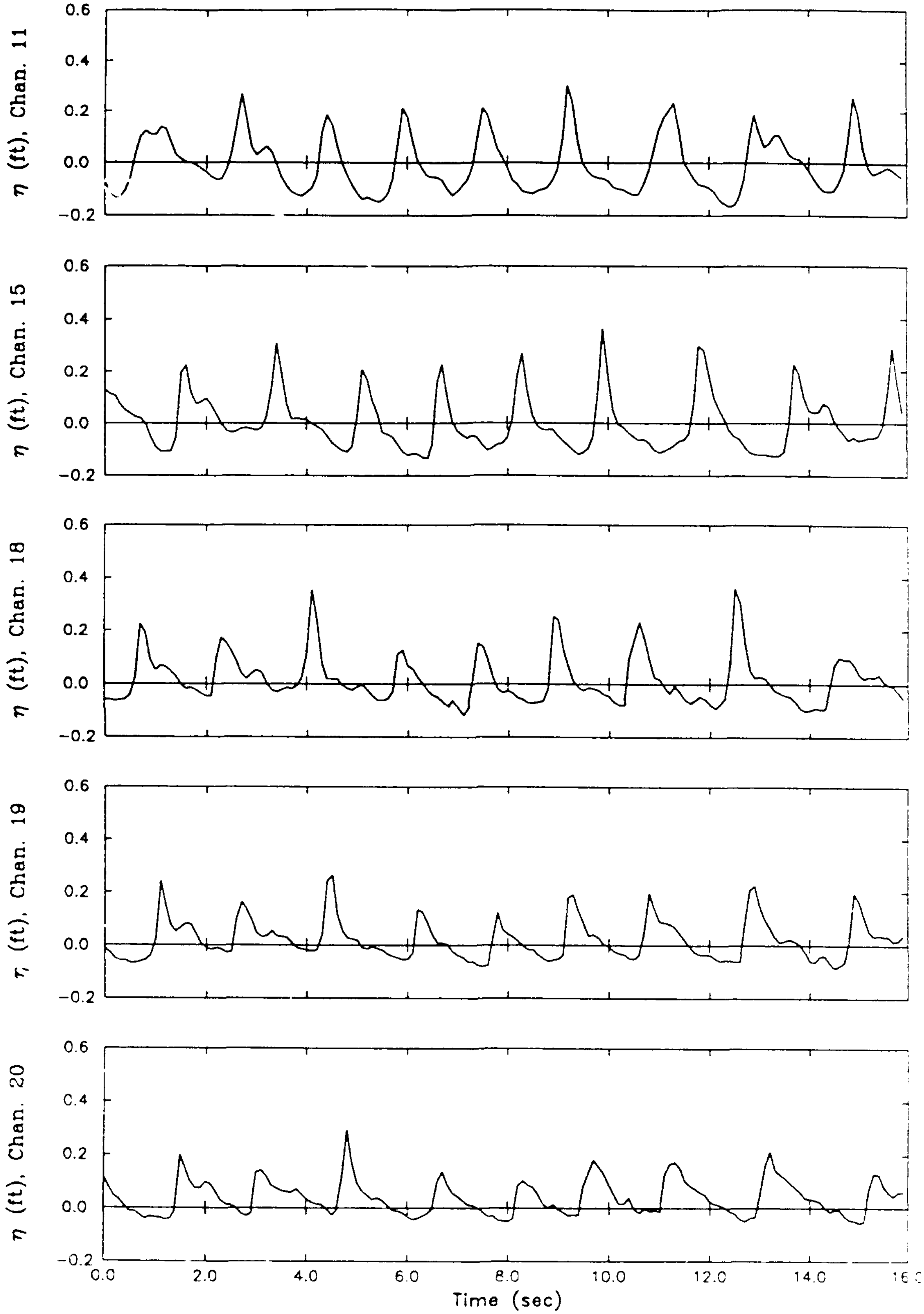
Generalized Beach Model, GBMD0104



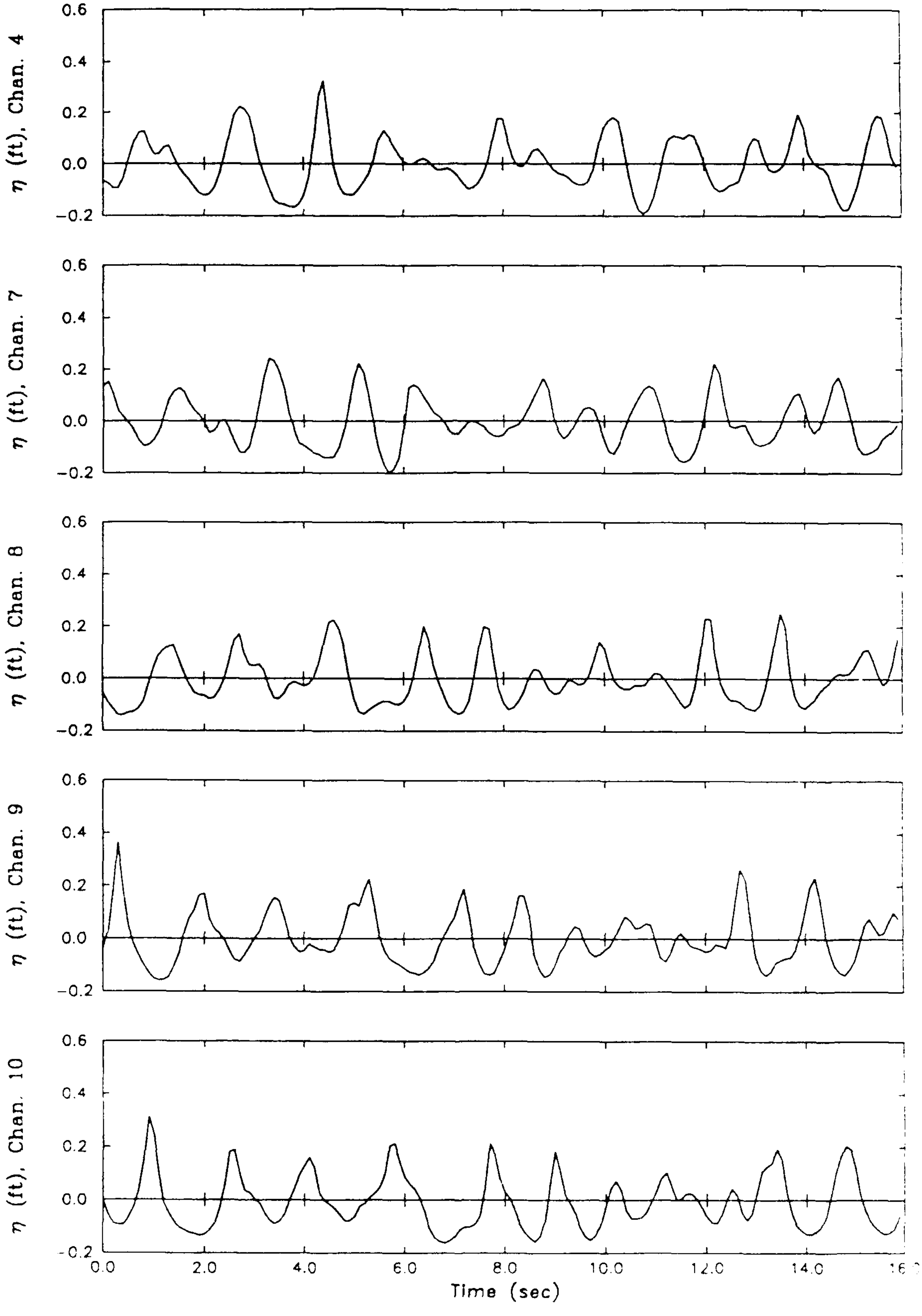
Generalized Beach Model, GBMD0104



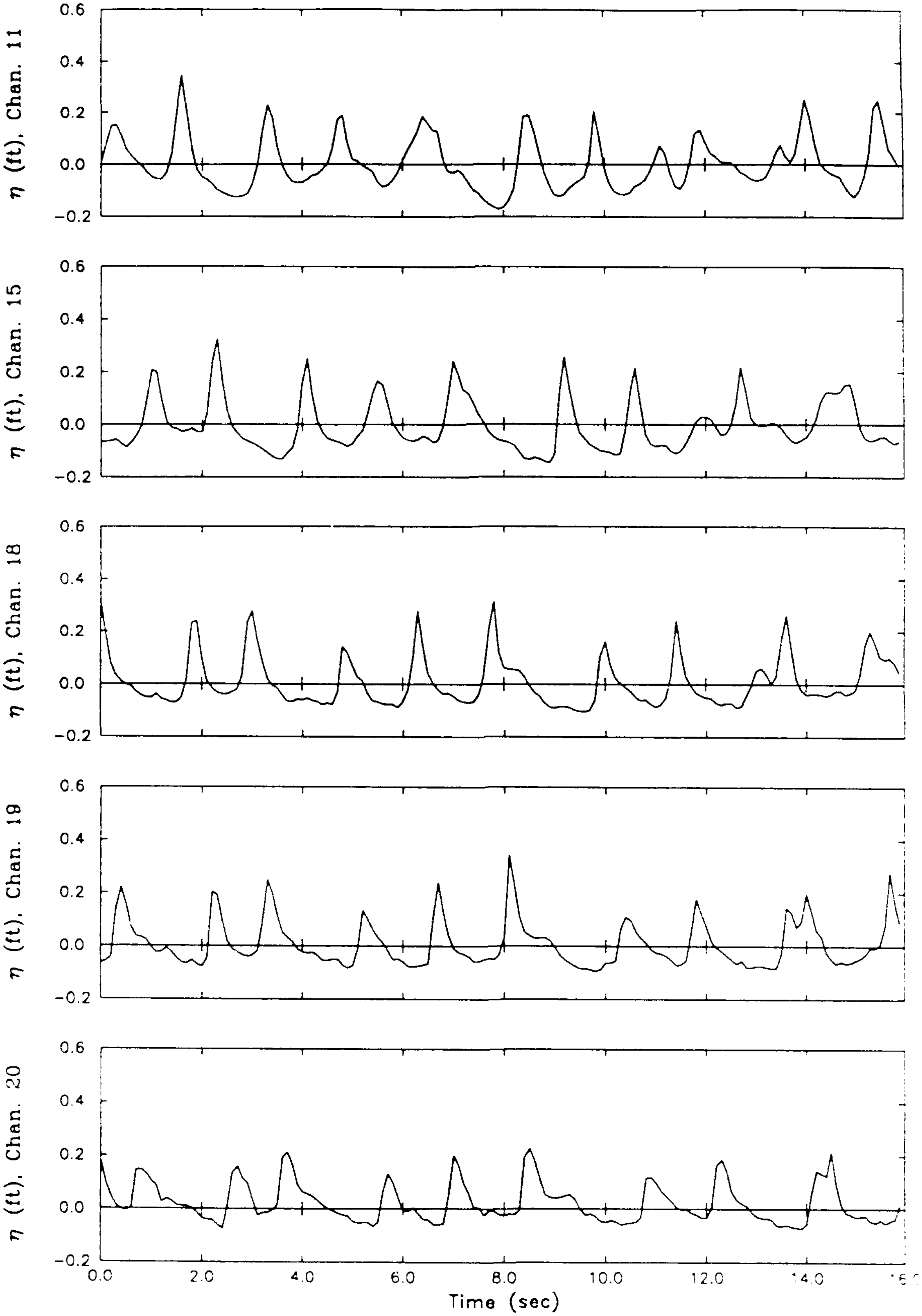
Generalized Beach Model, GBMD0203



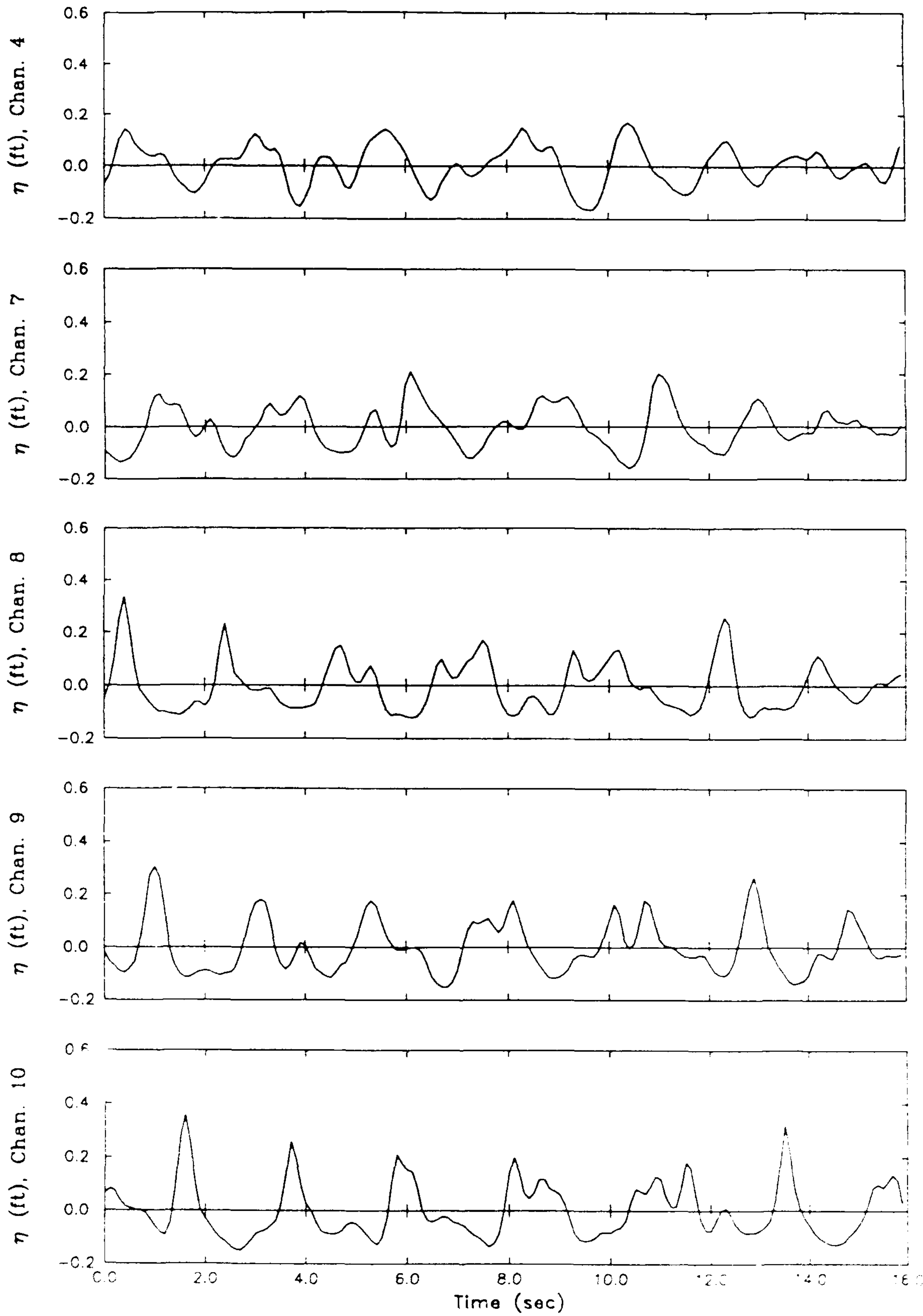
Generalized Beach Model, GBMD0203



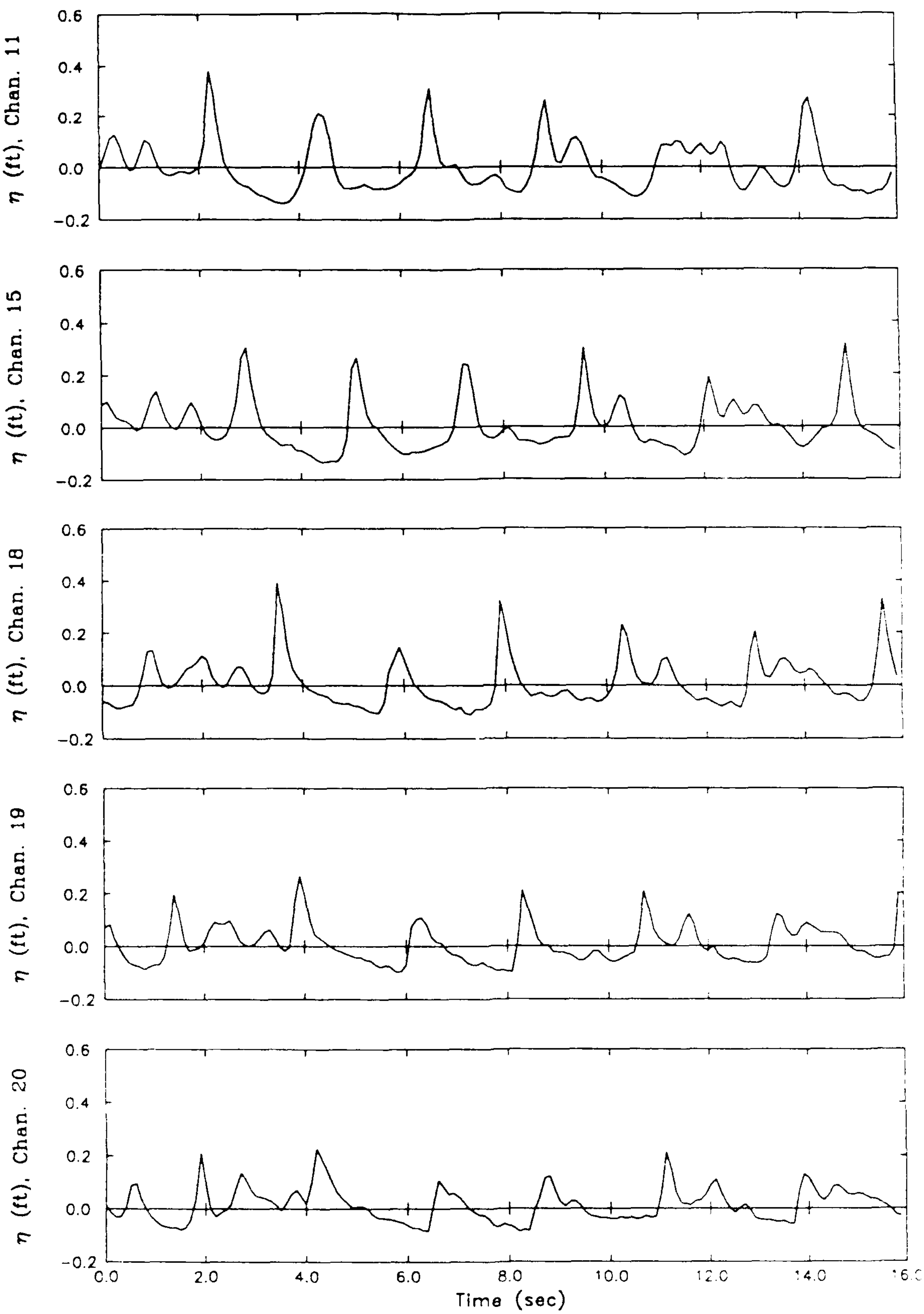
Generalized Beach Model, GBMD0303



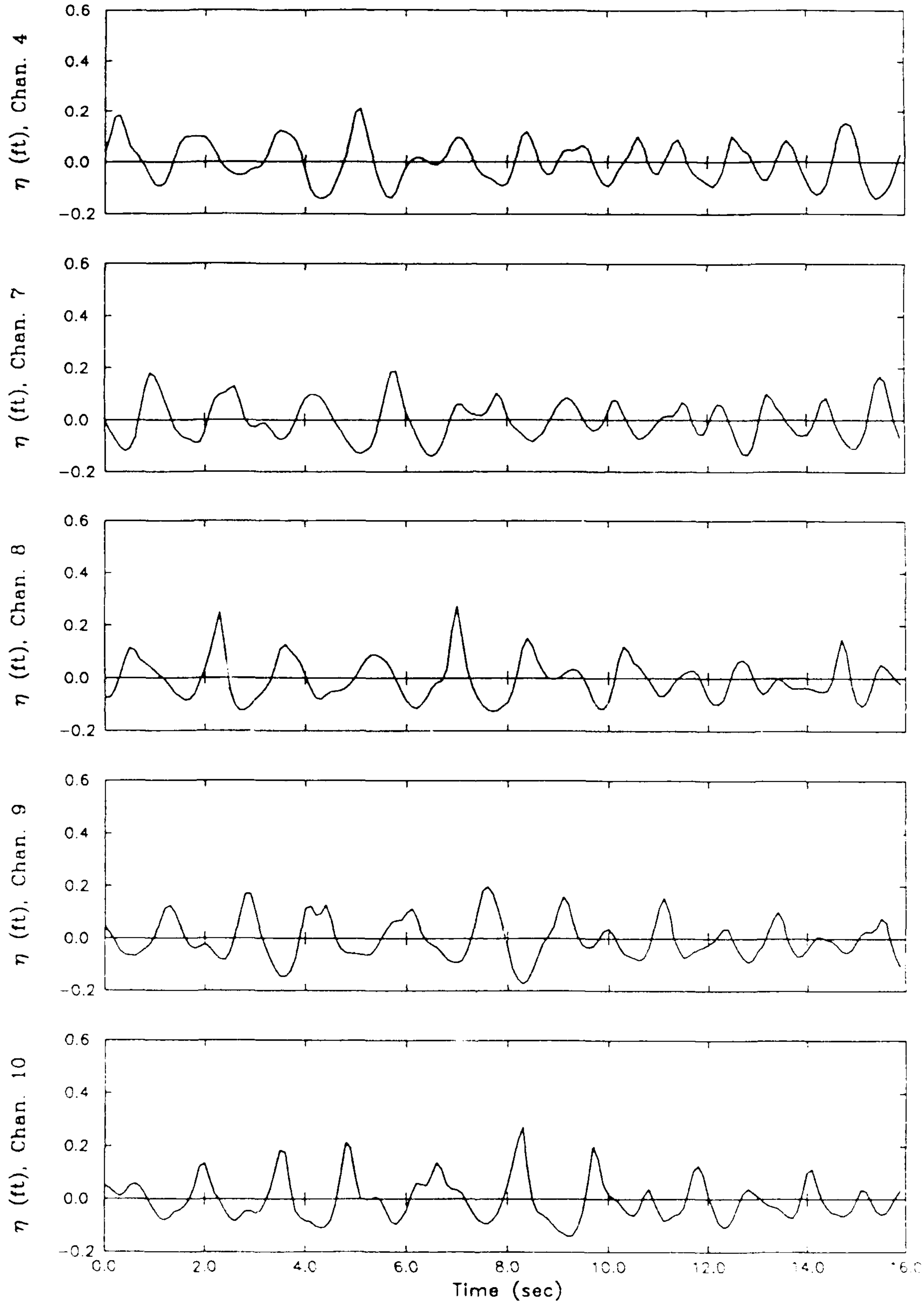
Generalized Beach Model, GBMD0303



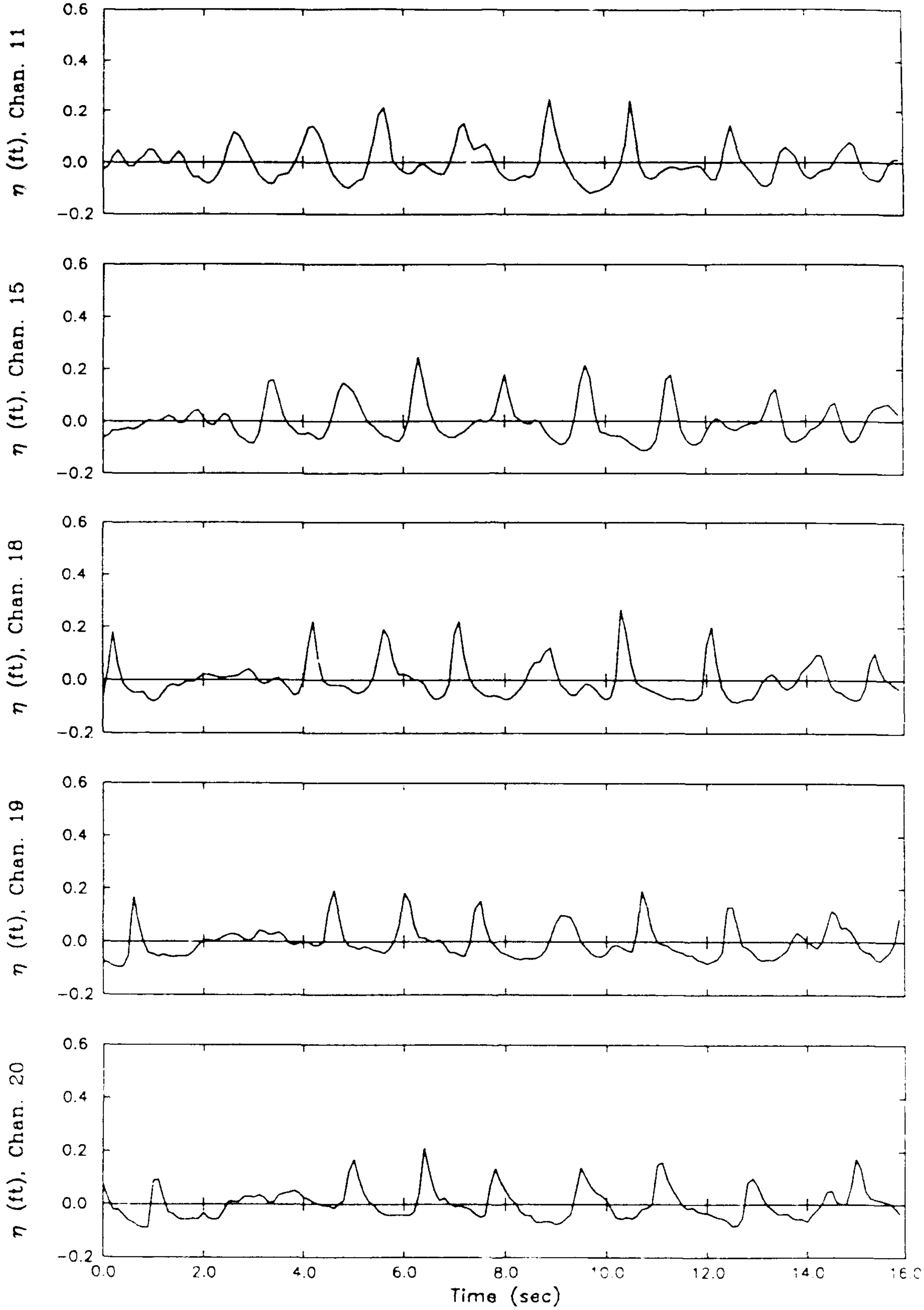
Generalized Beach Model, GBMD0403



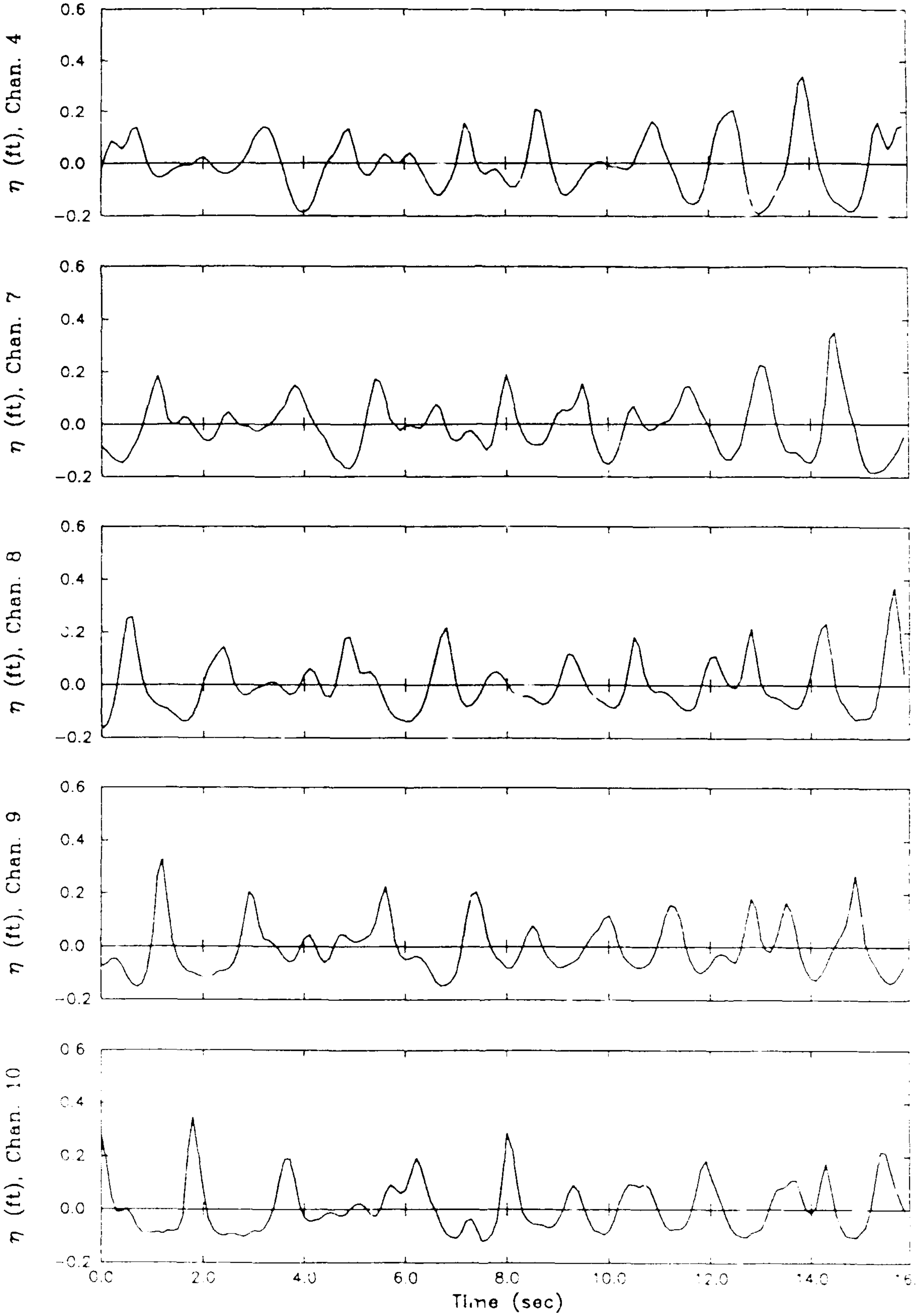
Generalized Beach Model, GBMD0403



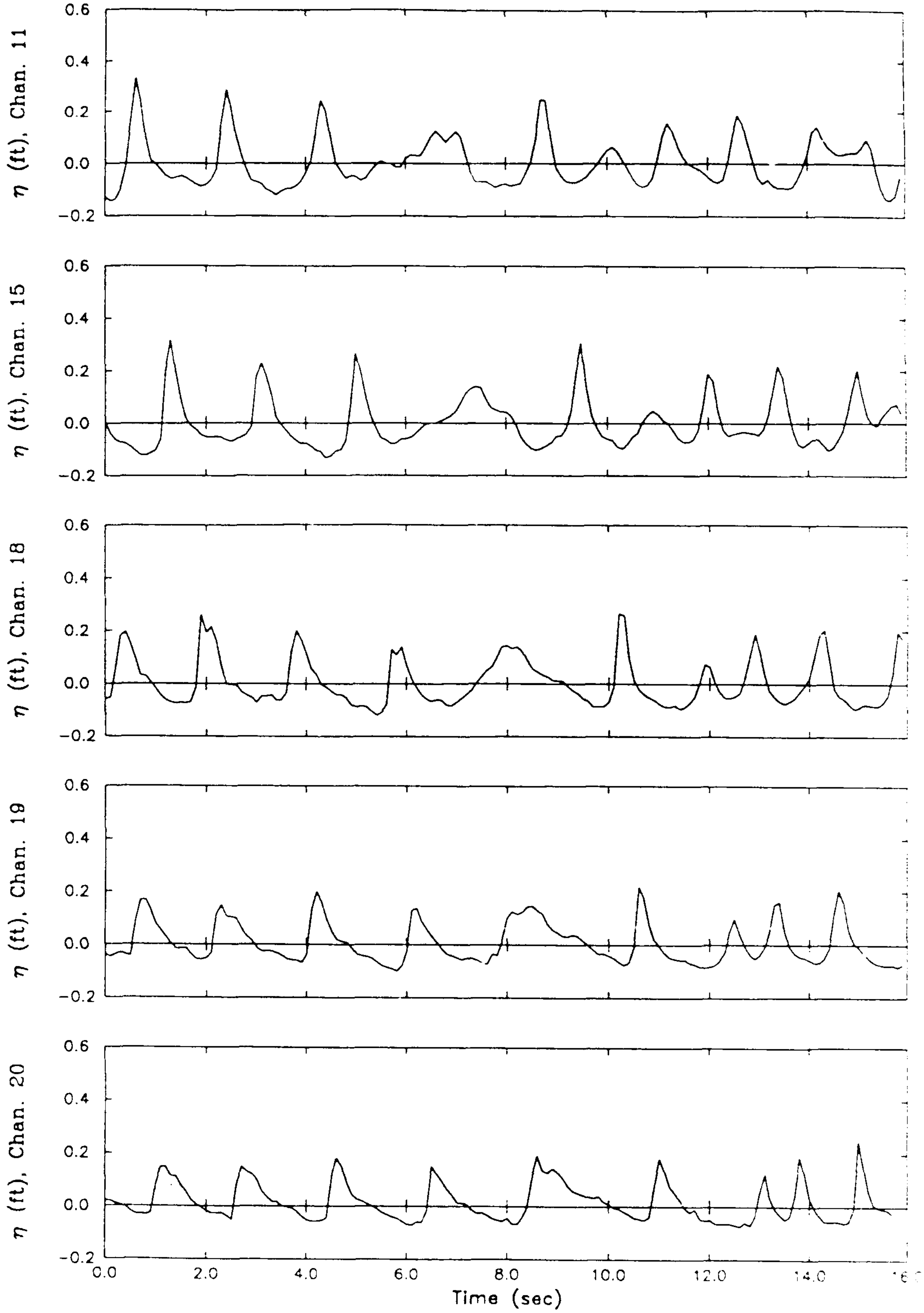
Generalized Beach Model, GBMD0502



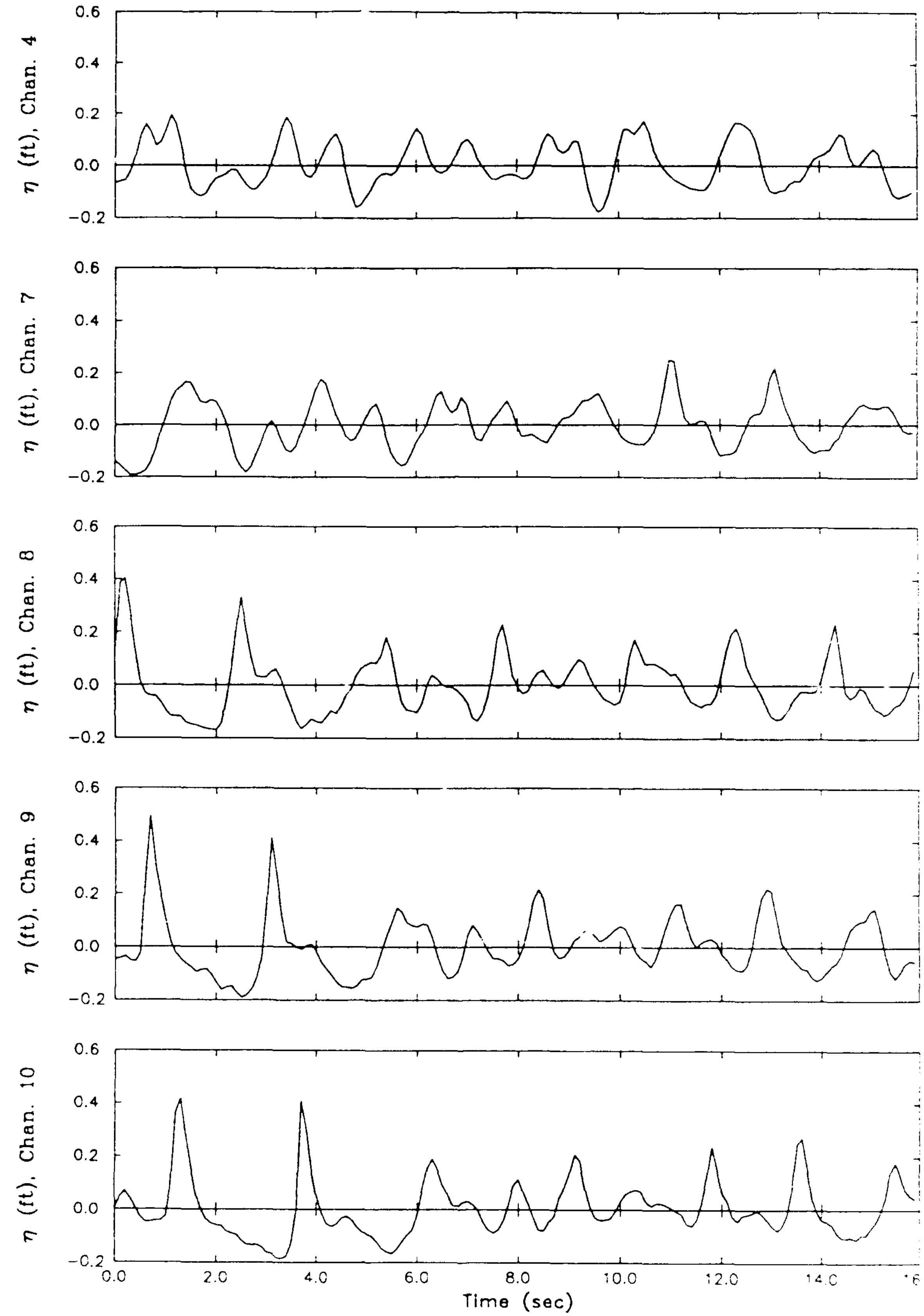
Generalized Beach Model, GBMD0502



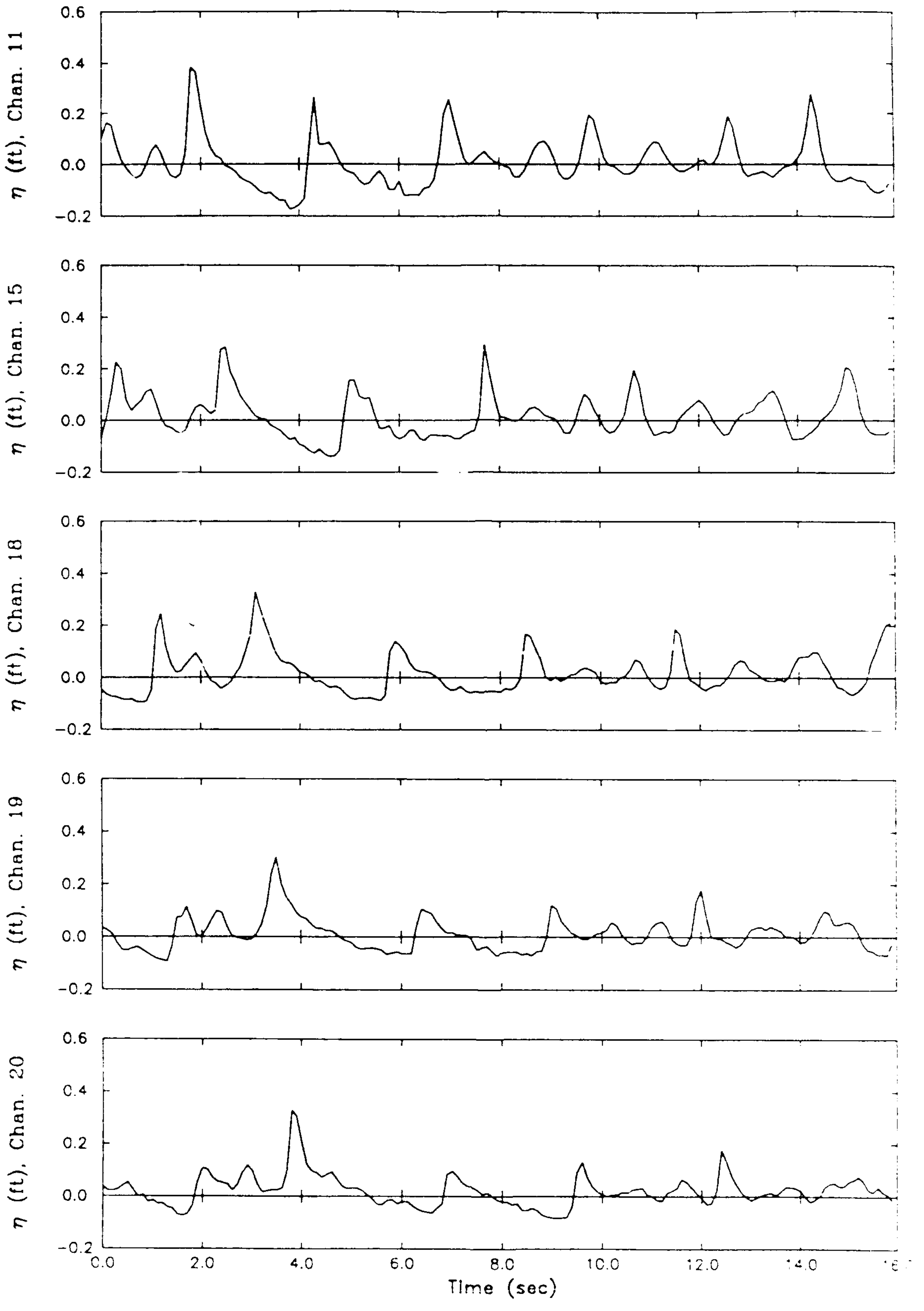
Generalized Beach Model, GBMD0602



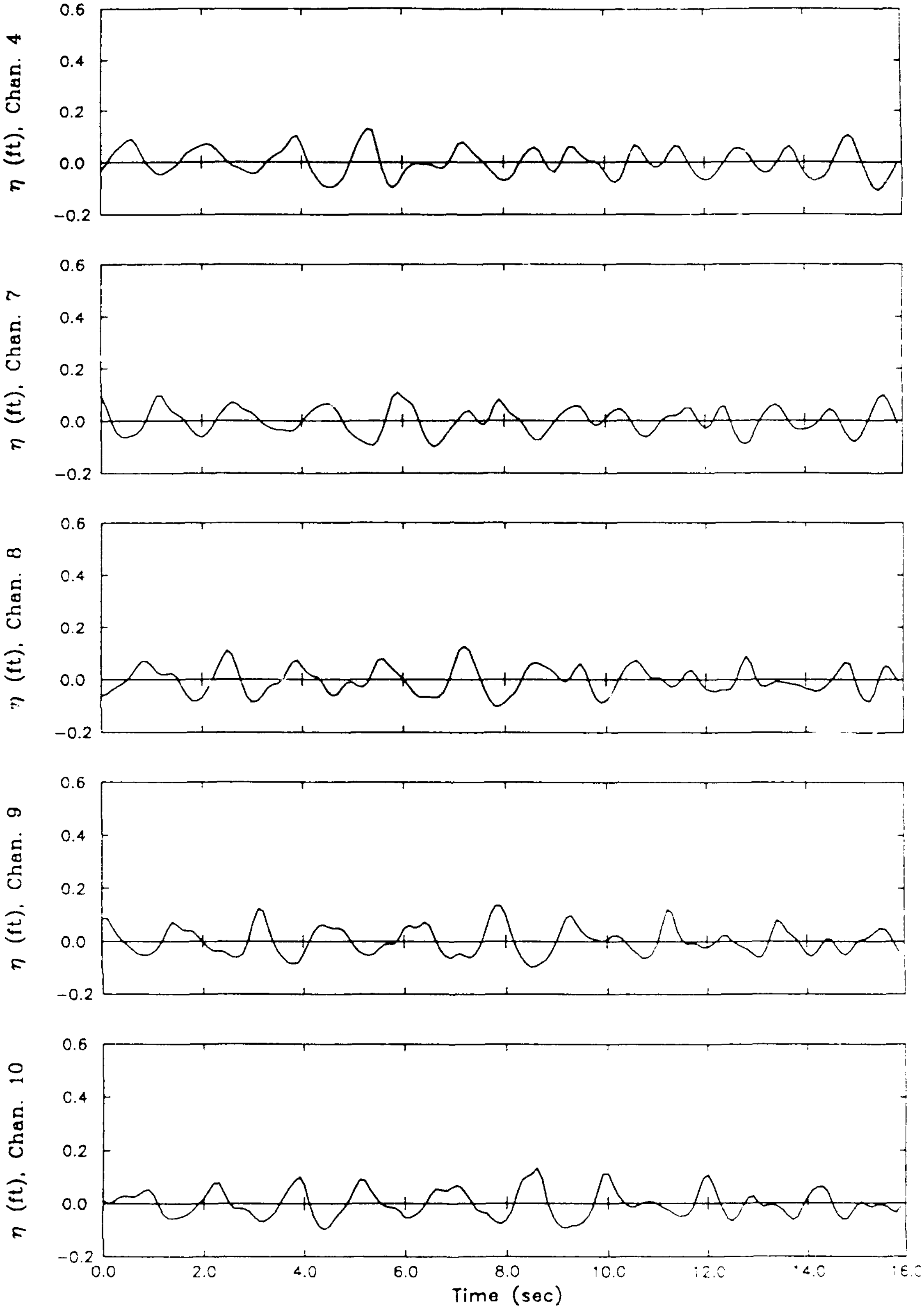
Generalized Beach Model, GBMD0602



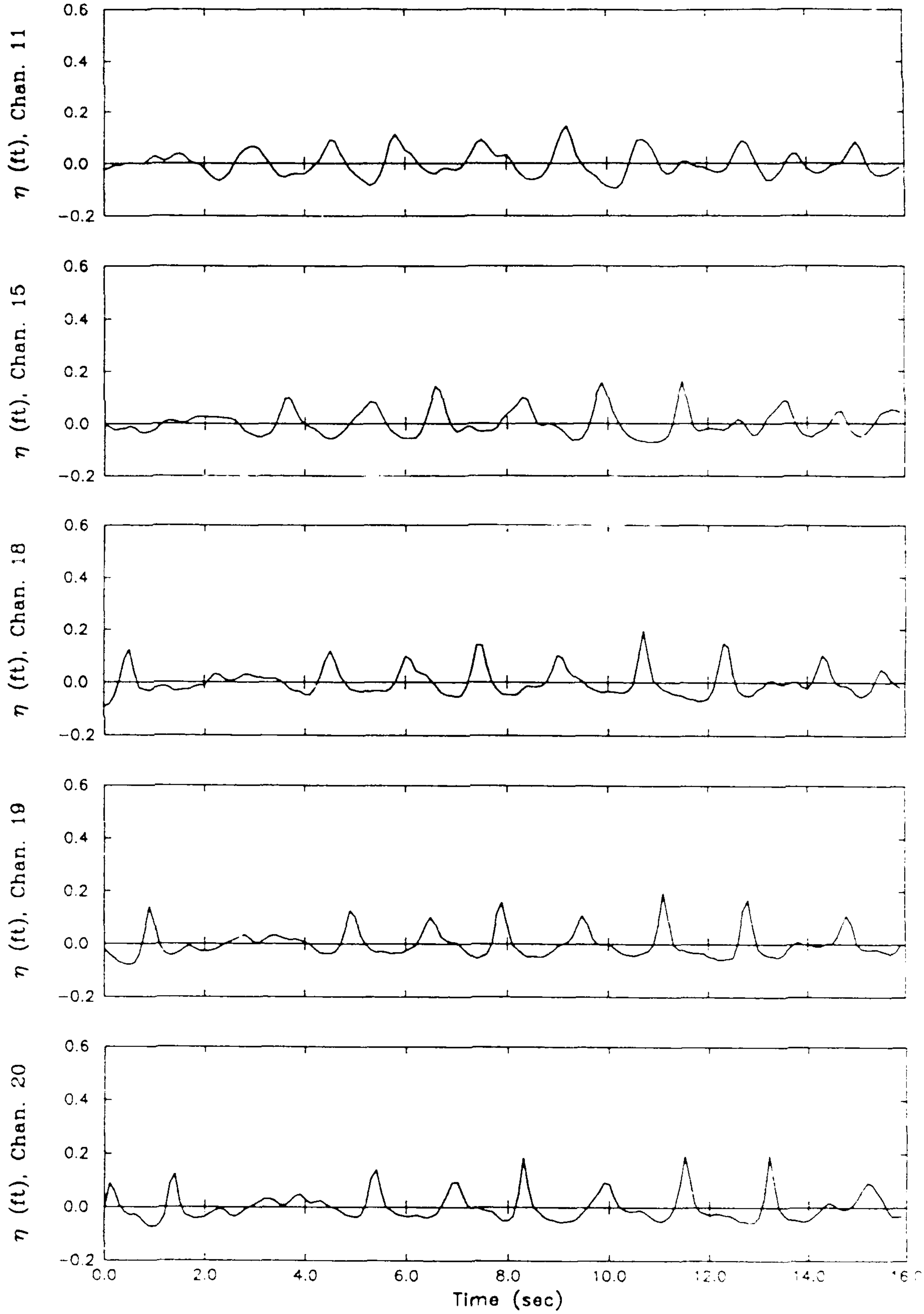
Generalized Beach Model, GBMD0703



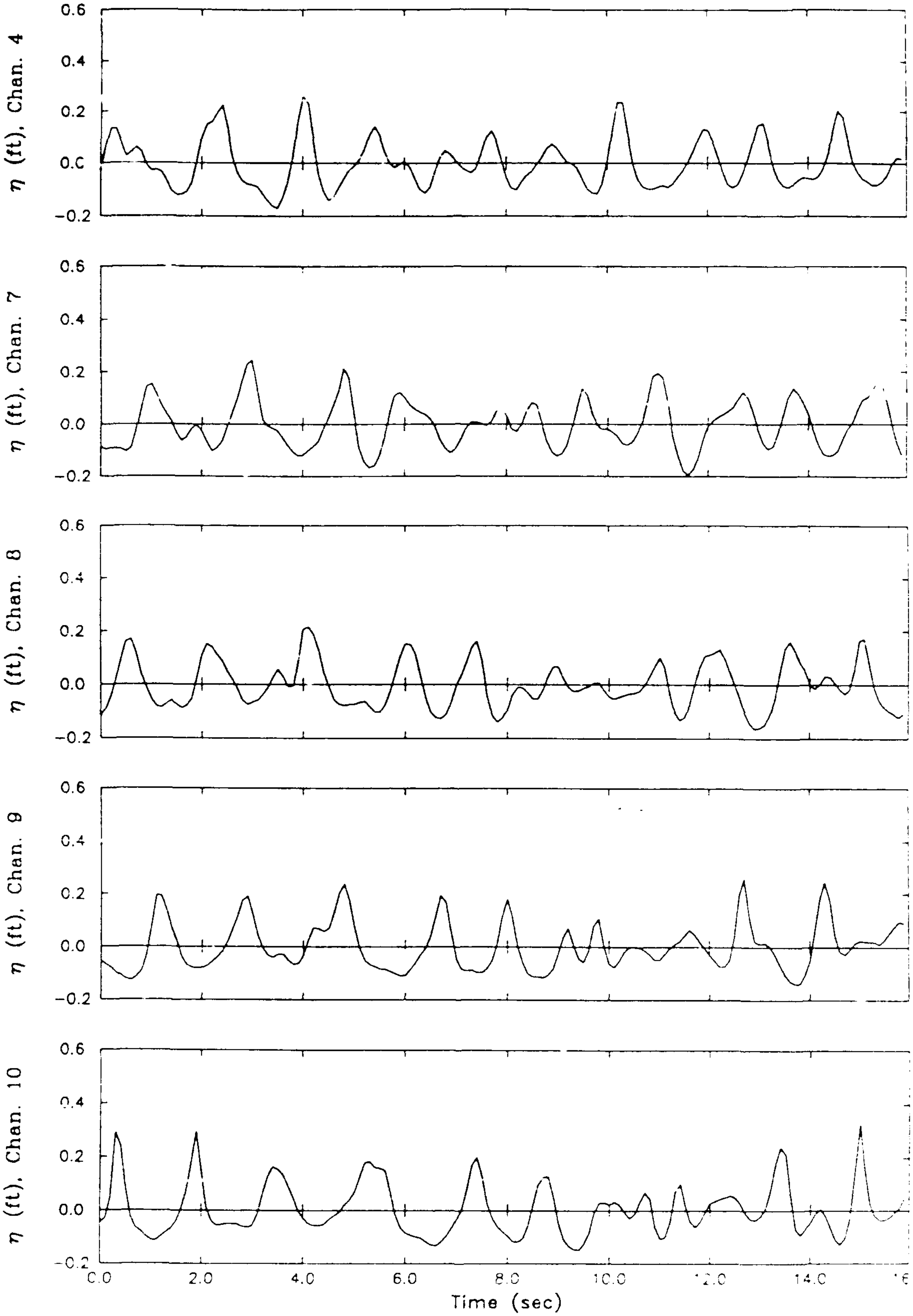
Generalized Beach Model, GBMD0703



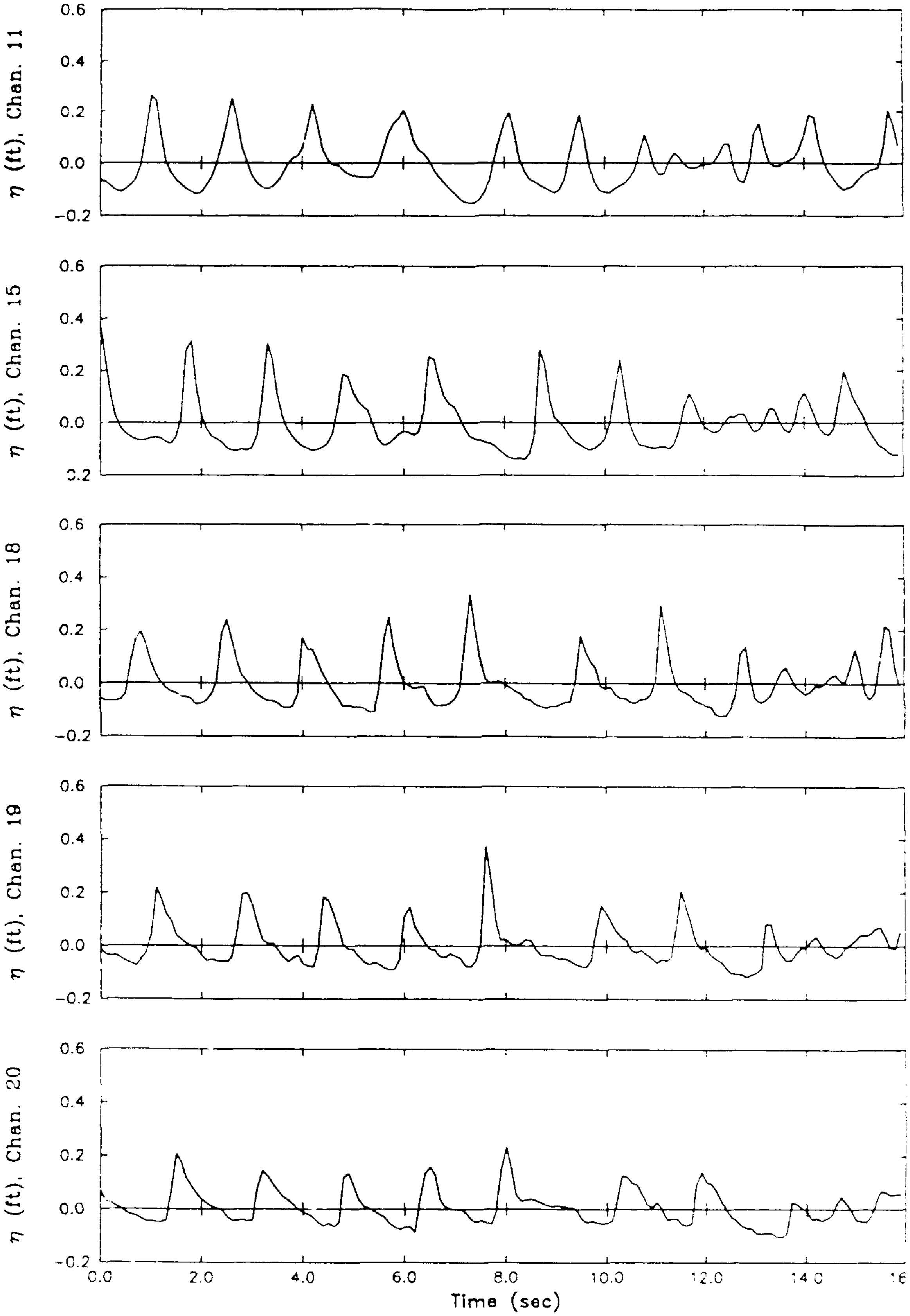
Generalized Beach Model, GBMD0802



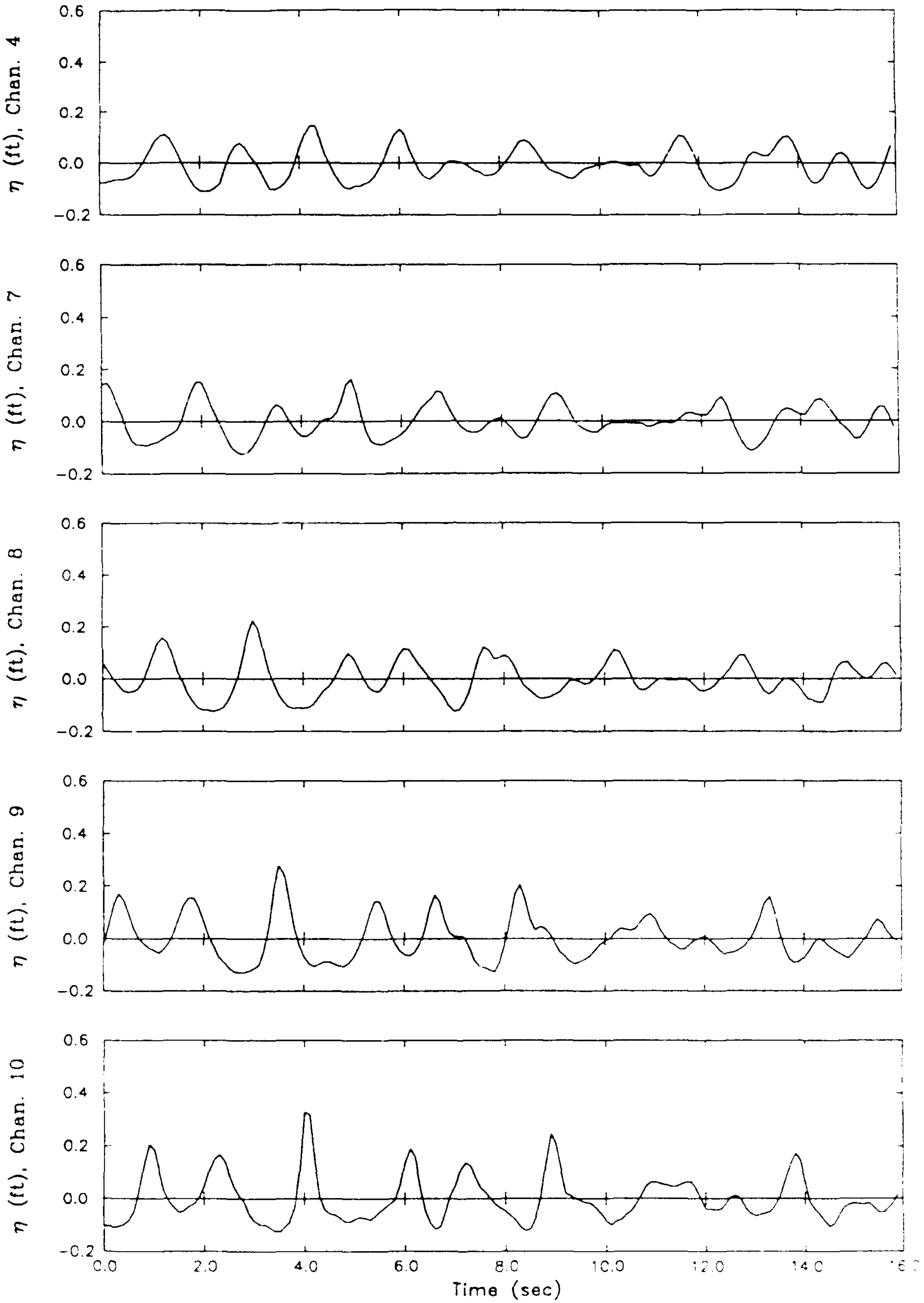
Generalized Beach Model, GBMD0802



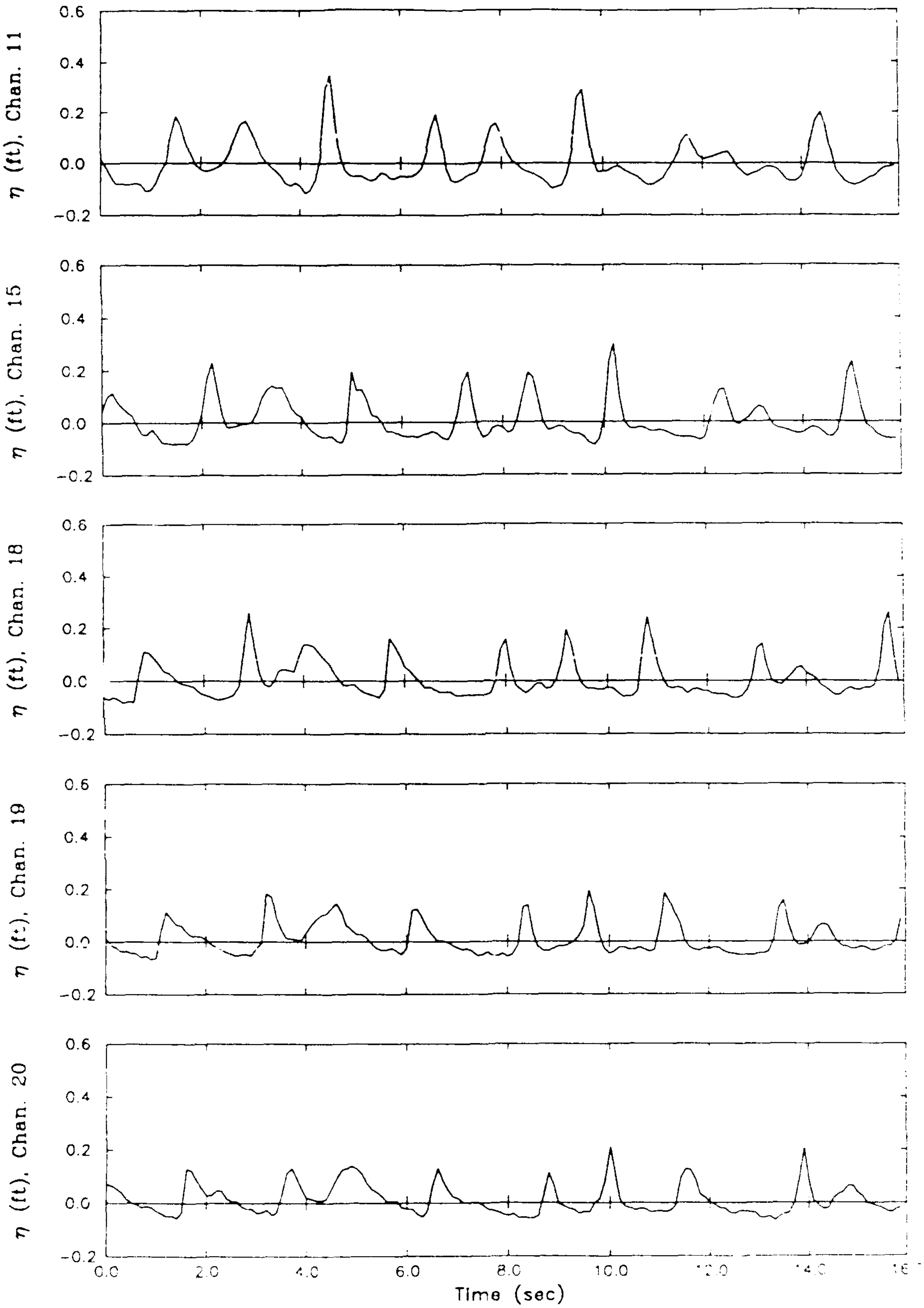
Generalized Beach Model, GBMD0902



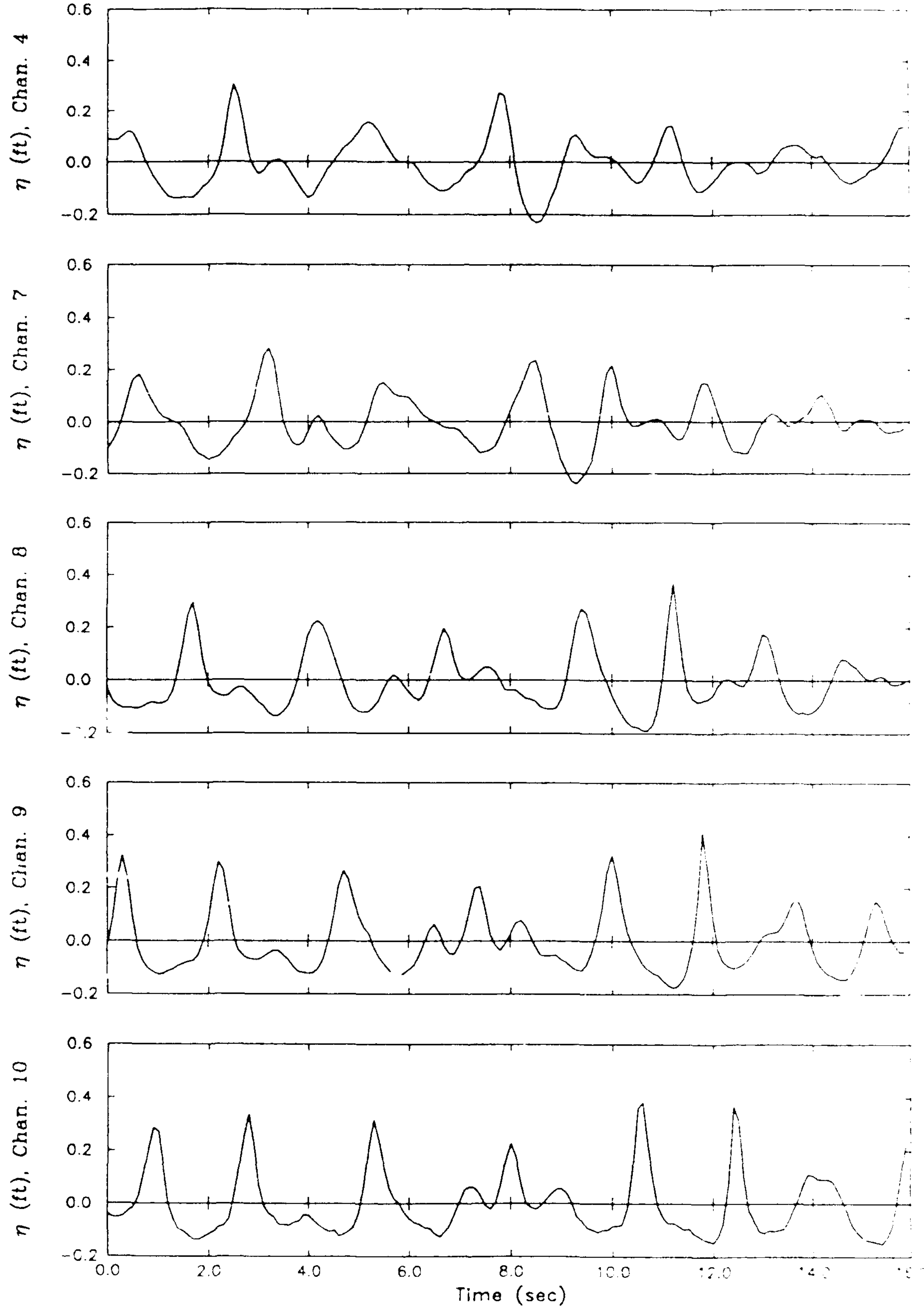
Generalized Beach Model, GBMD0902



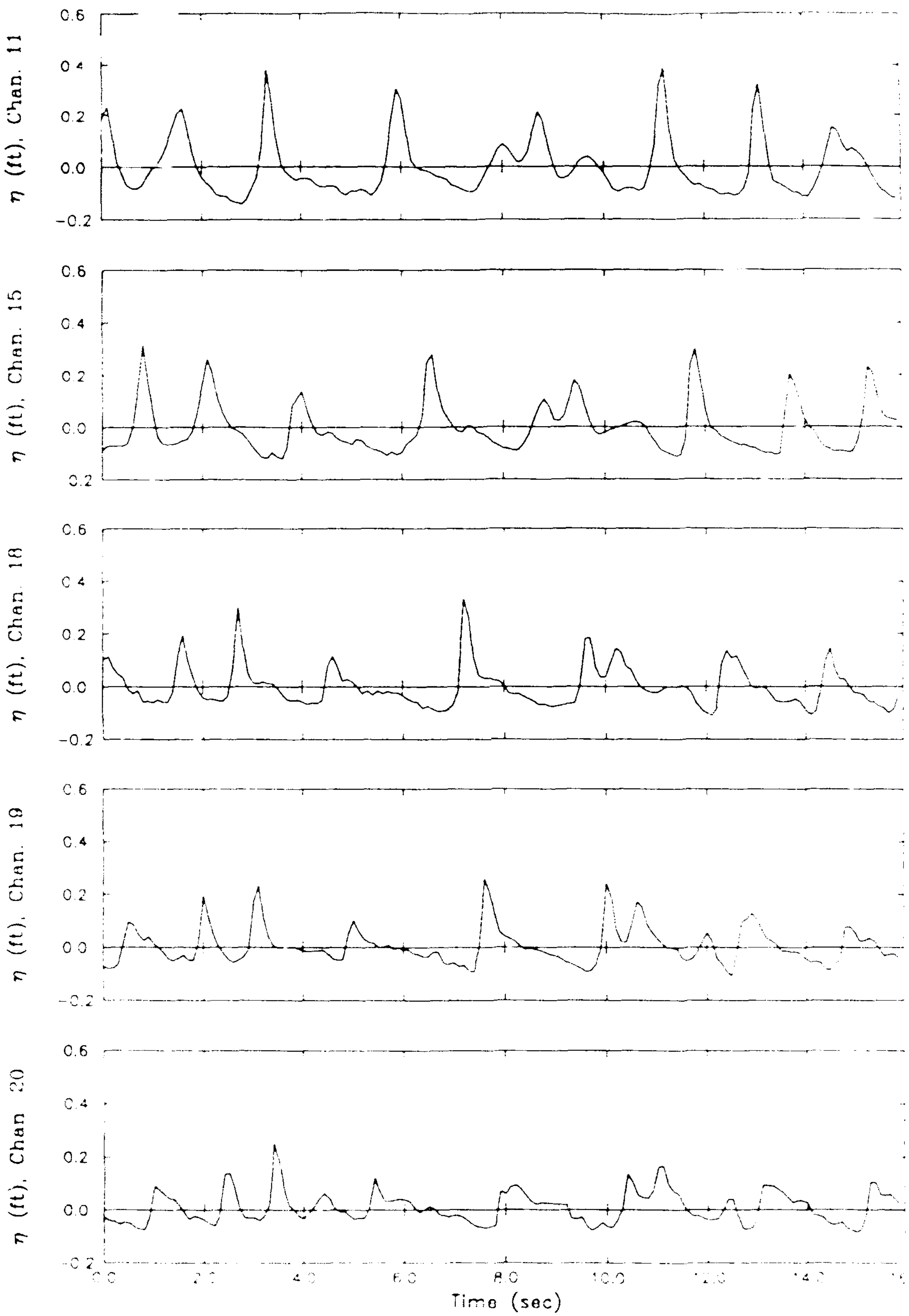
Generalized Beach Model, GBMD1303



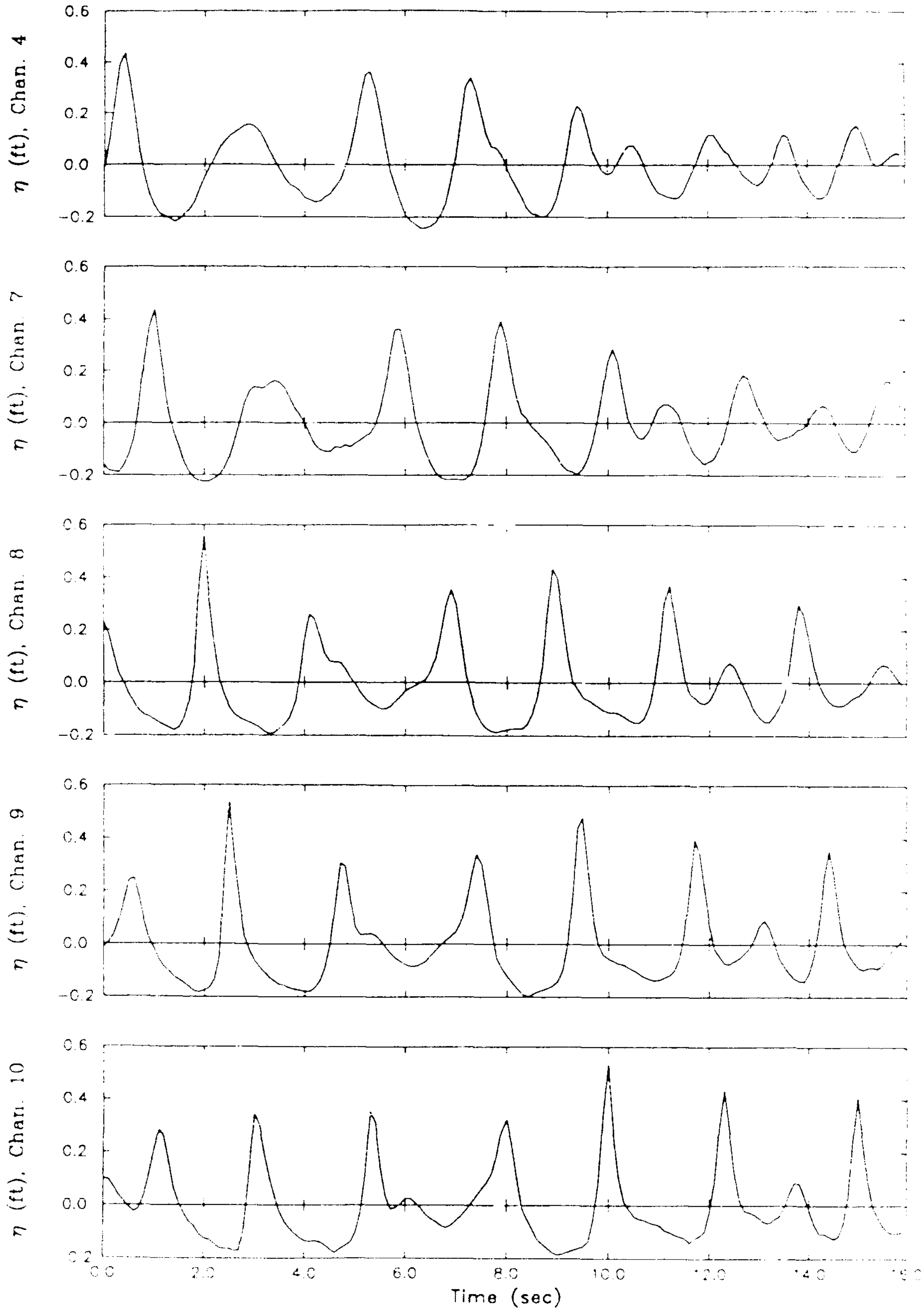
Generalized Beach Model, GBMD1303



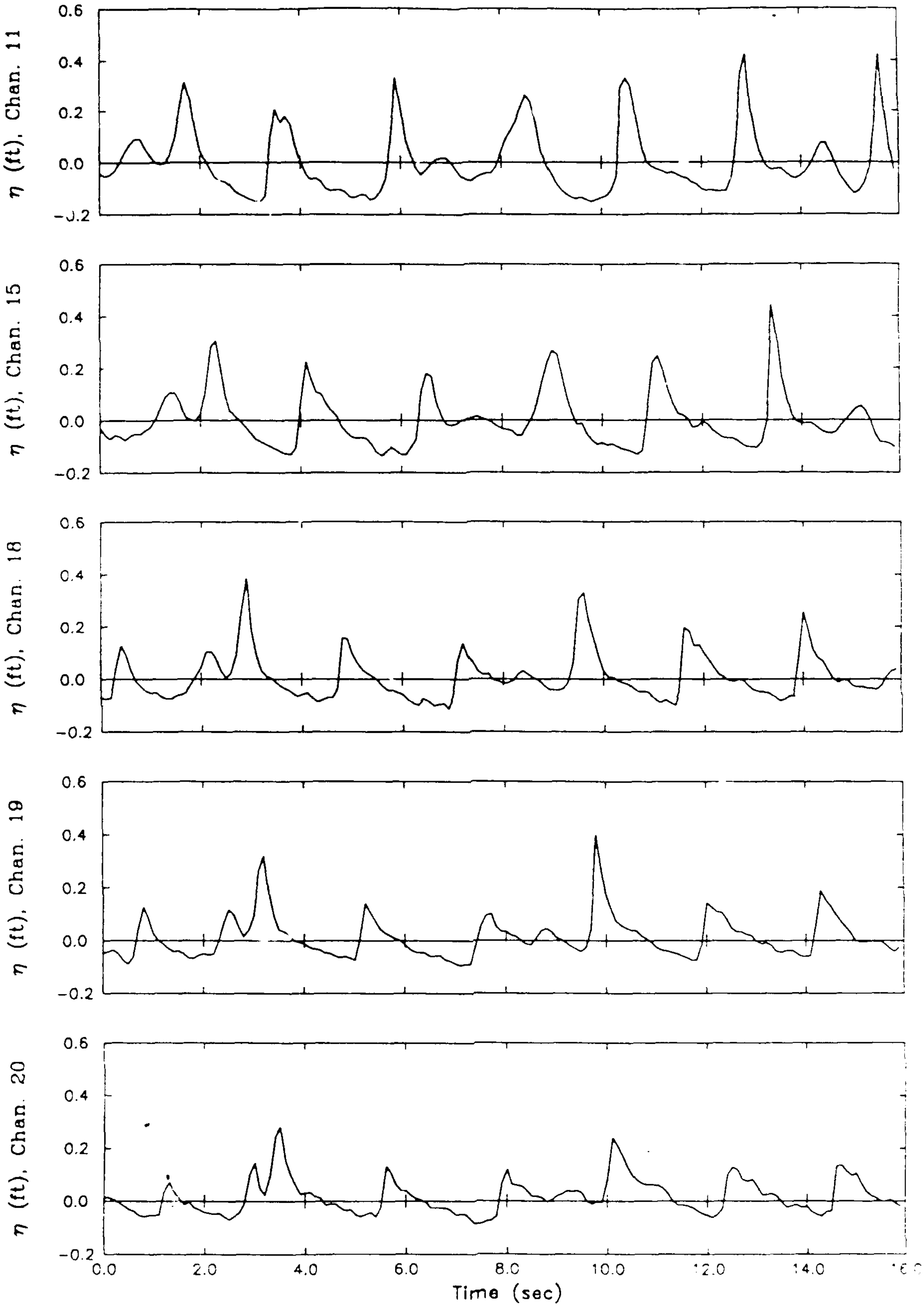
Generalized Beach Model, GBMD1603



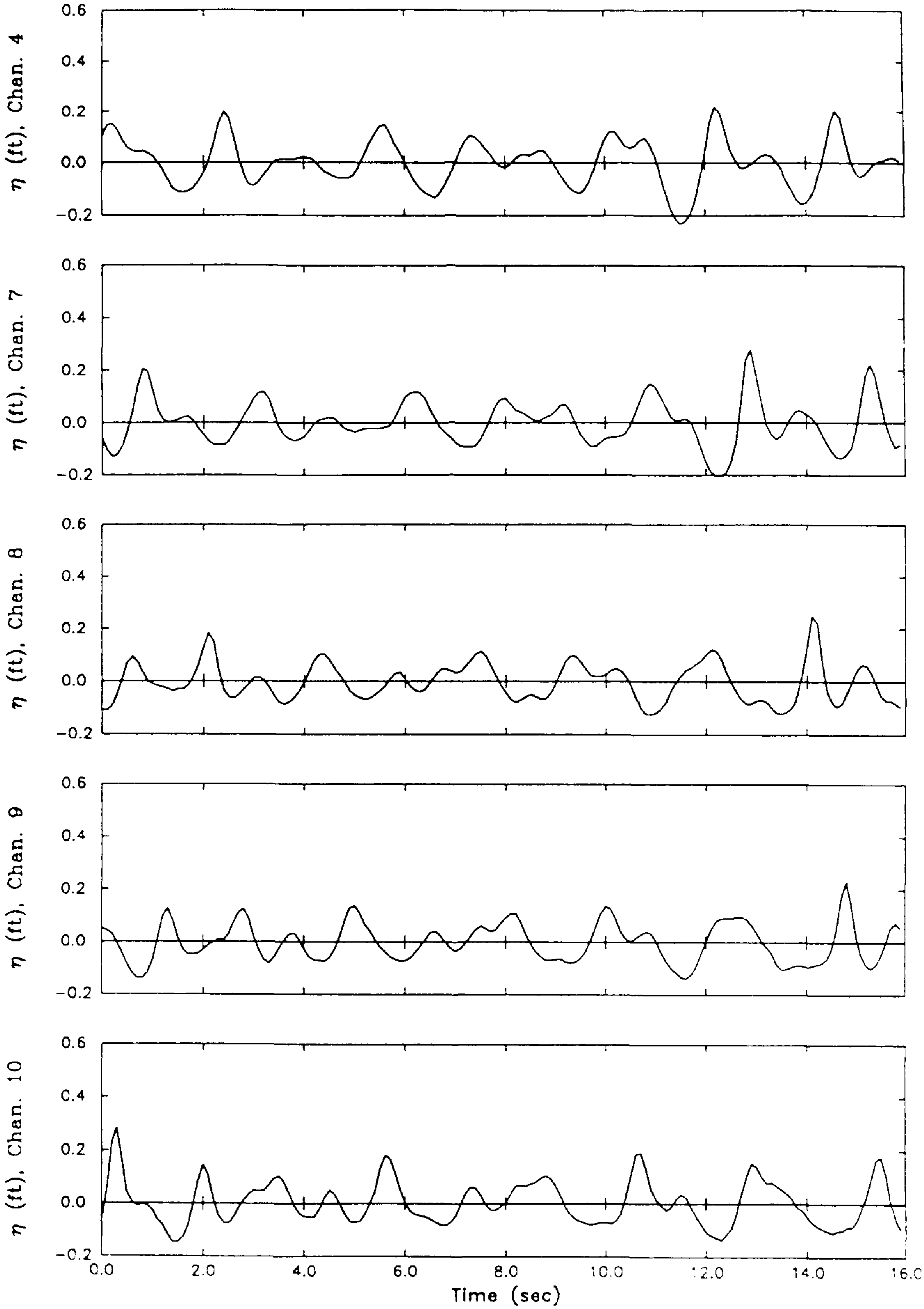
Generalized Beach Model, GBMD1603



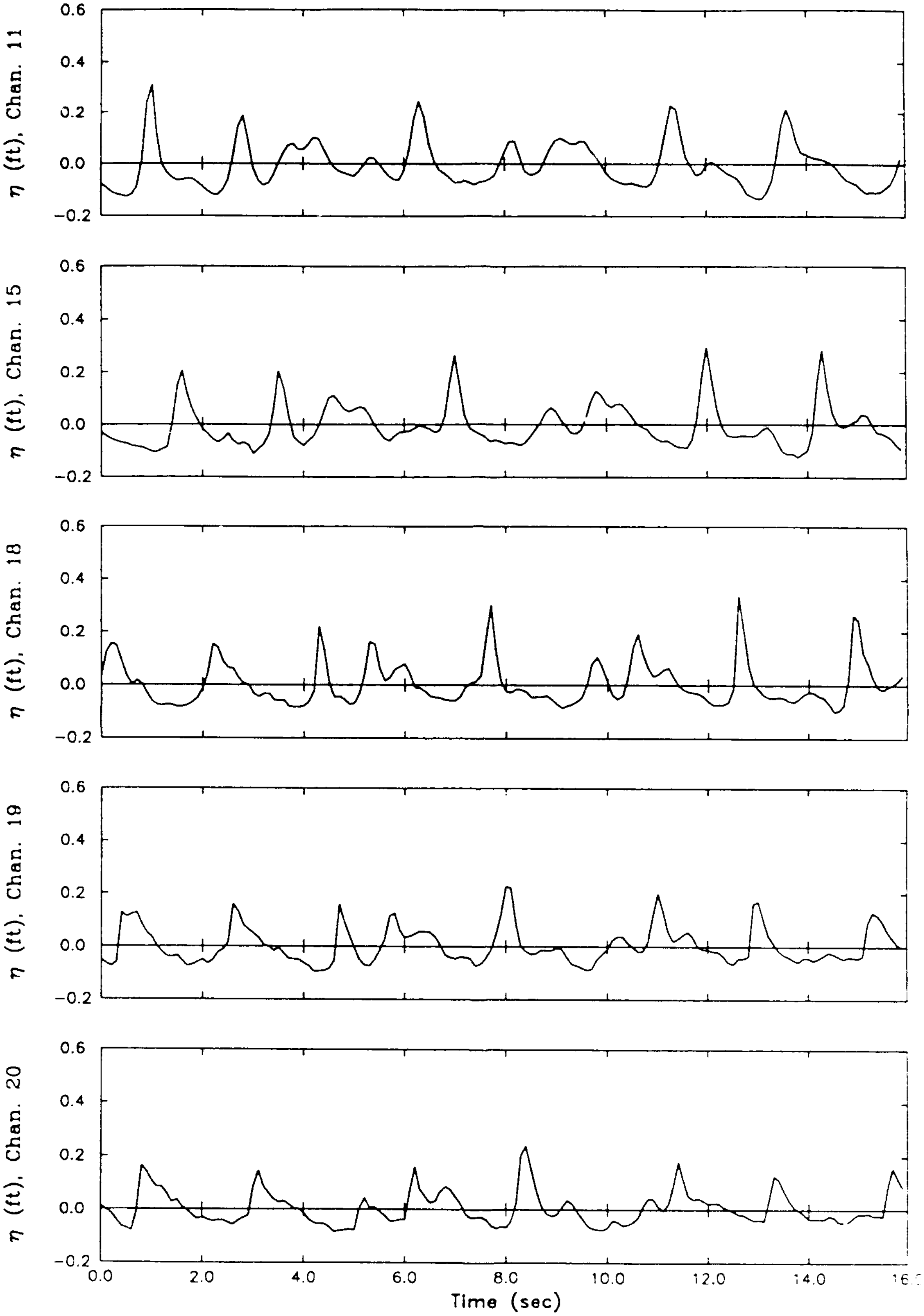
Generalized Beach Model, GBMD1903



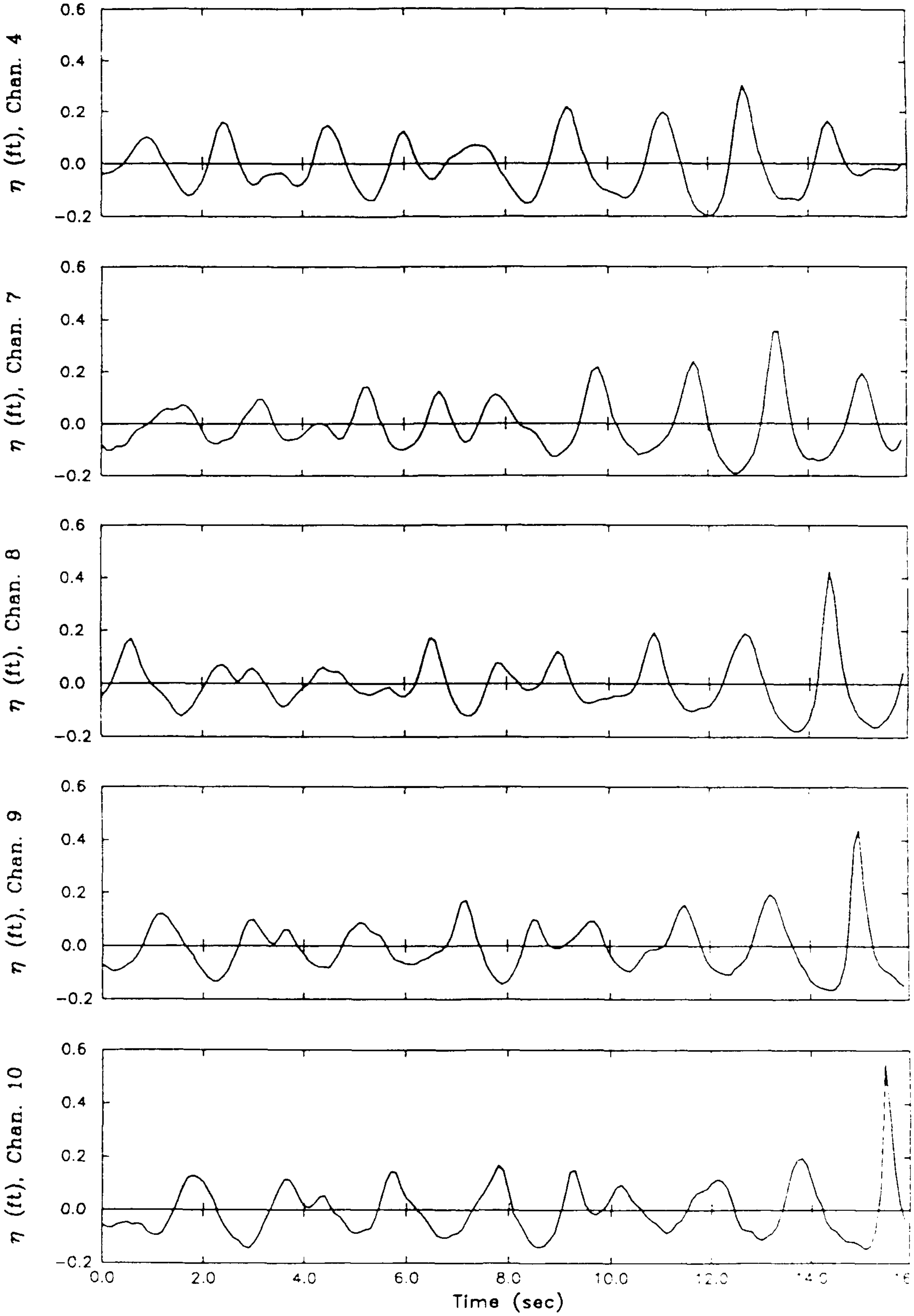
Generalized Beach Model, GBMD1903



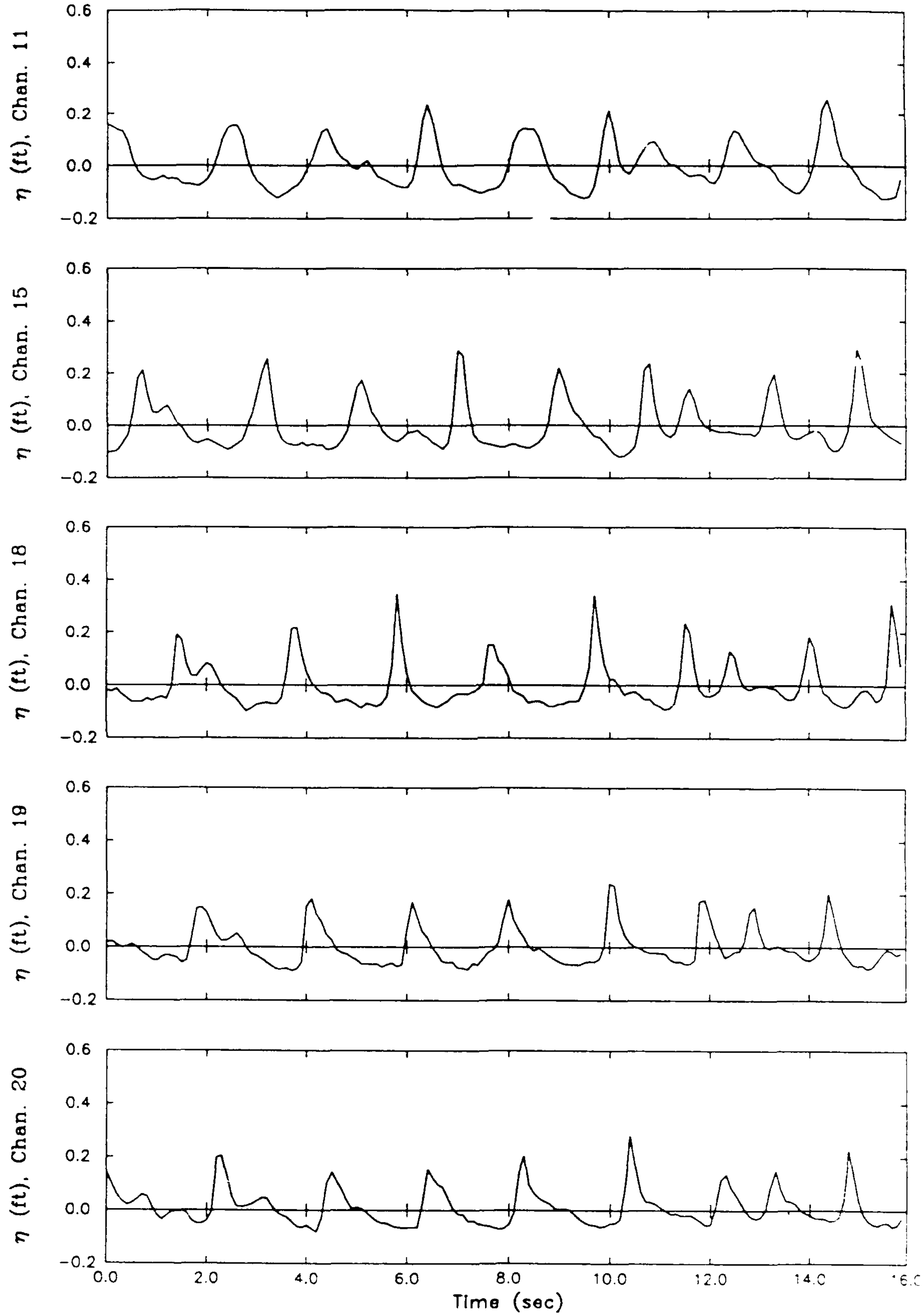
Generalized Beach Model, GBMD2303



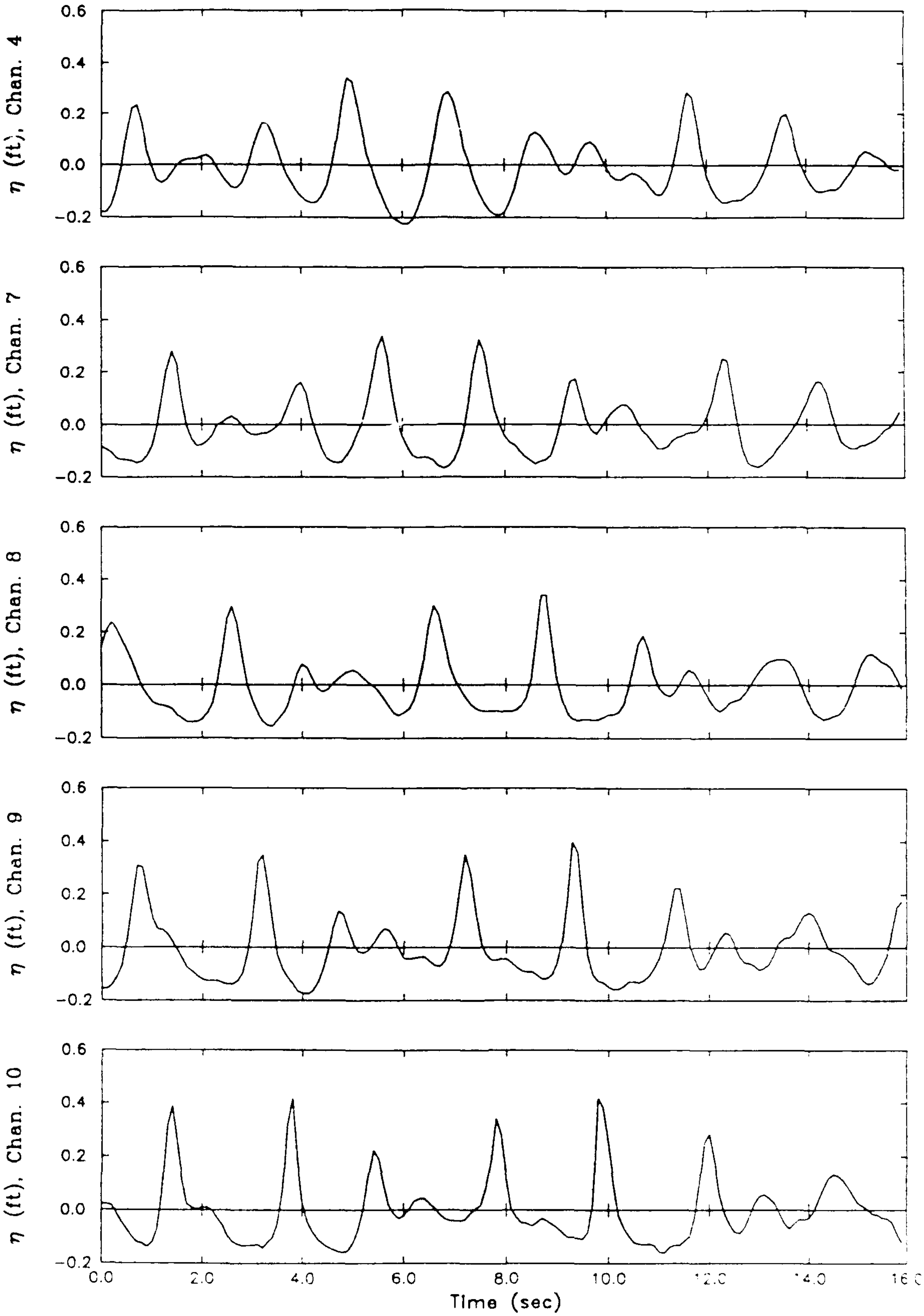
Generalized Beach Model, GBMD2303



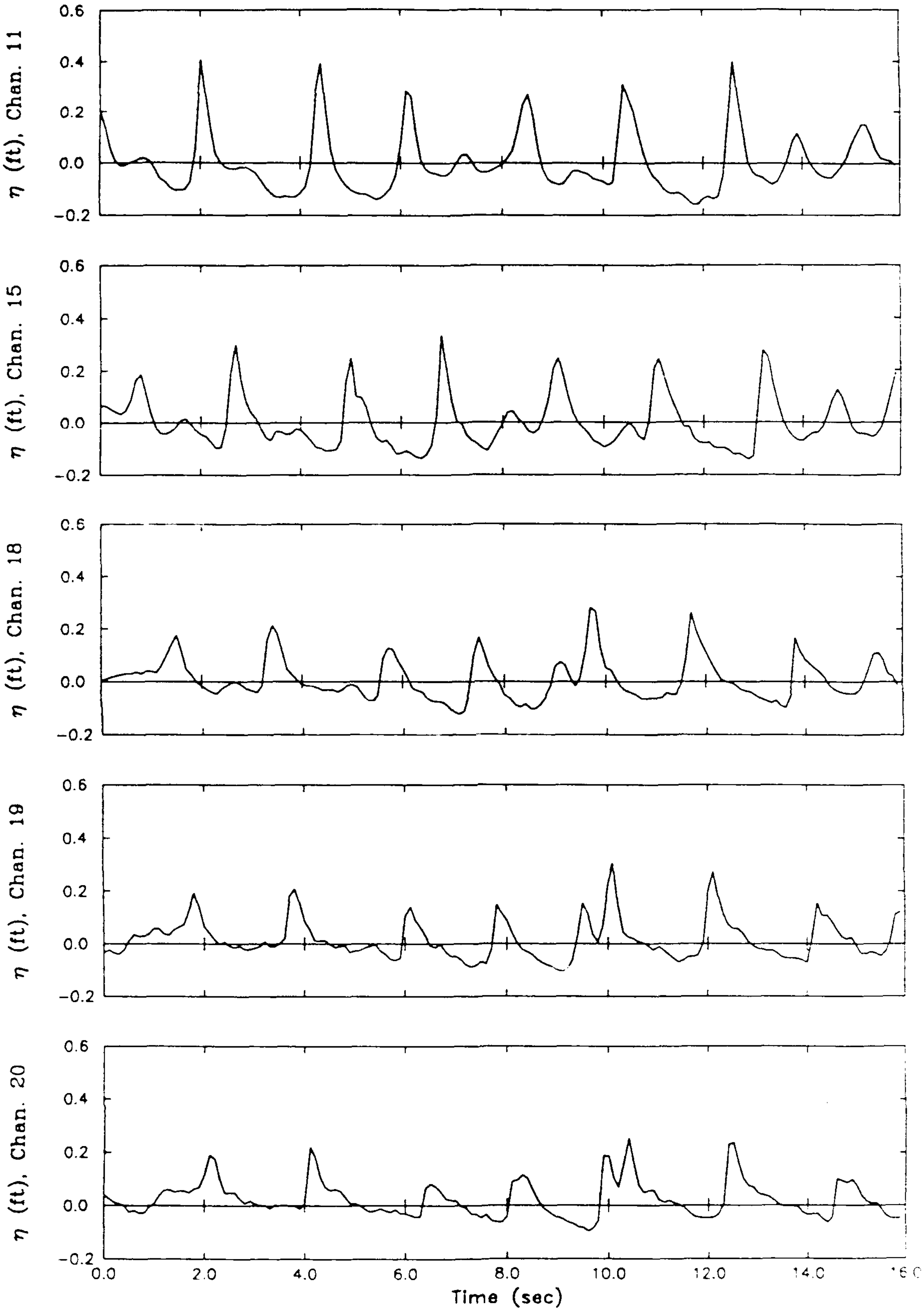
Generalized Beach Model, GBMD2603



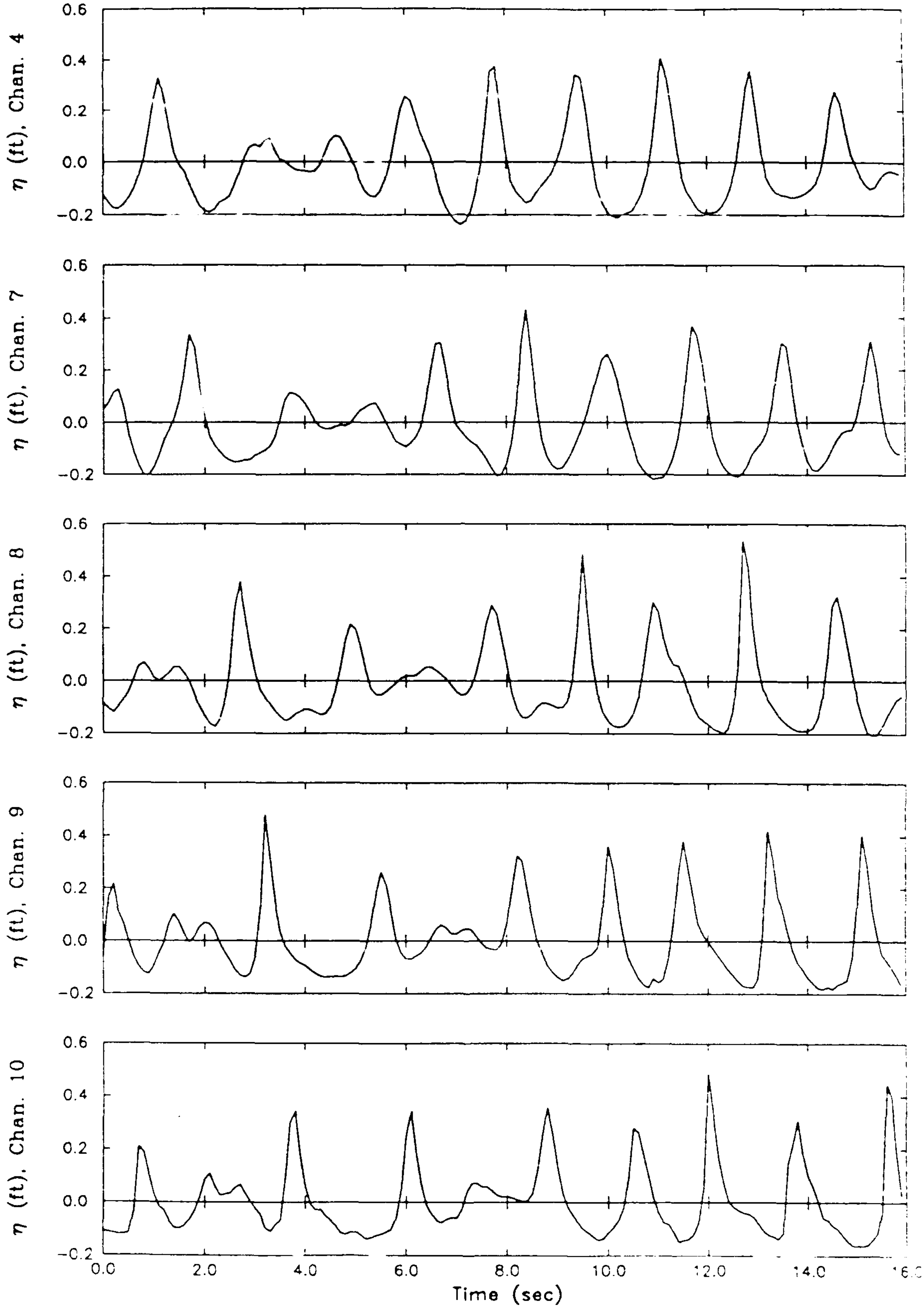
Generalized Beach Model, GBMD2603



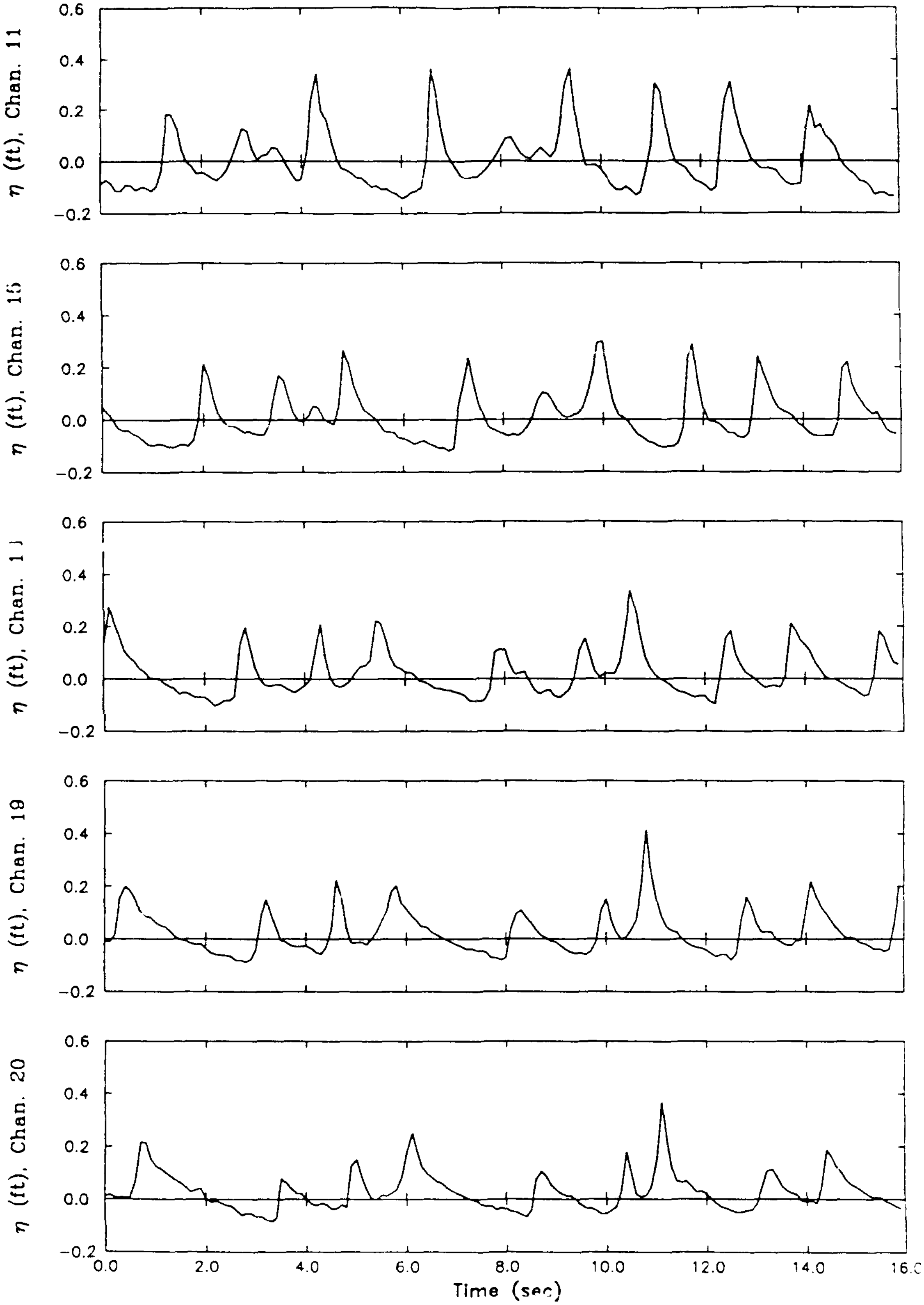
Generalized Beach Model, GBMD2903



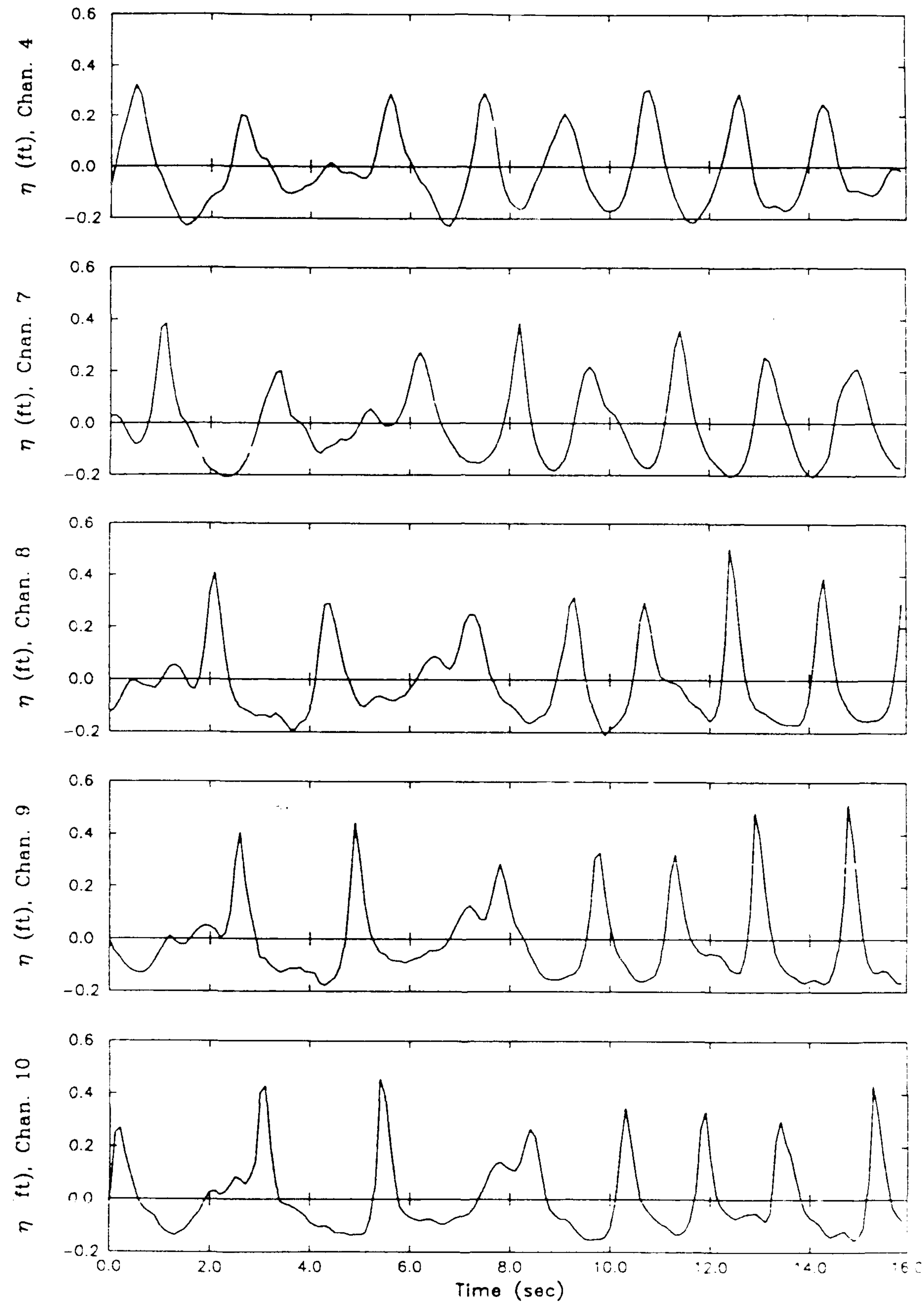
Generalized Beach Model, GBMD2903



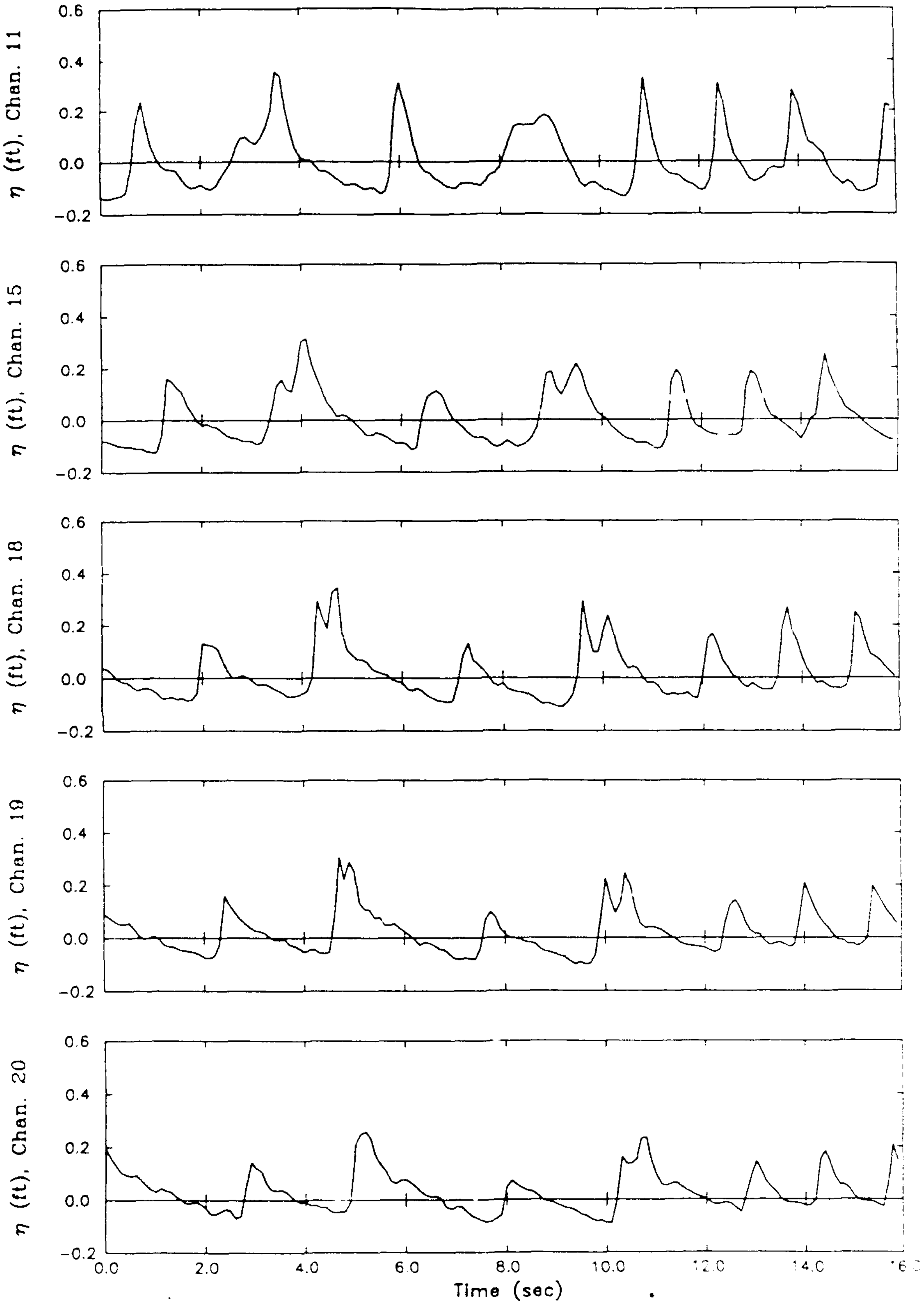
Generalized Beach Model, GBMD3302



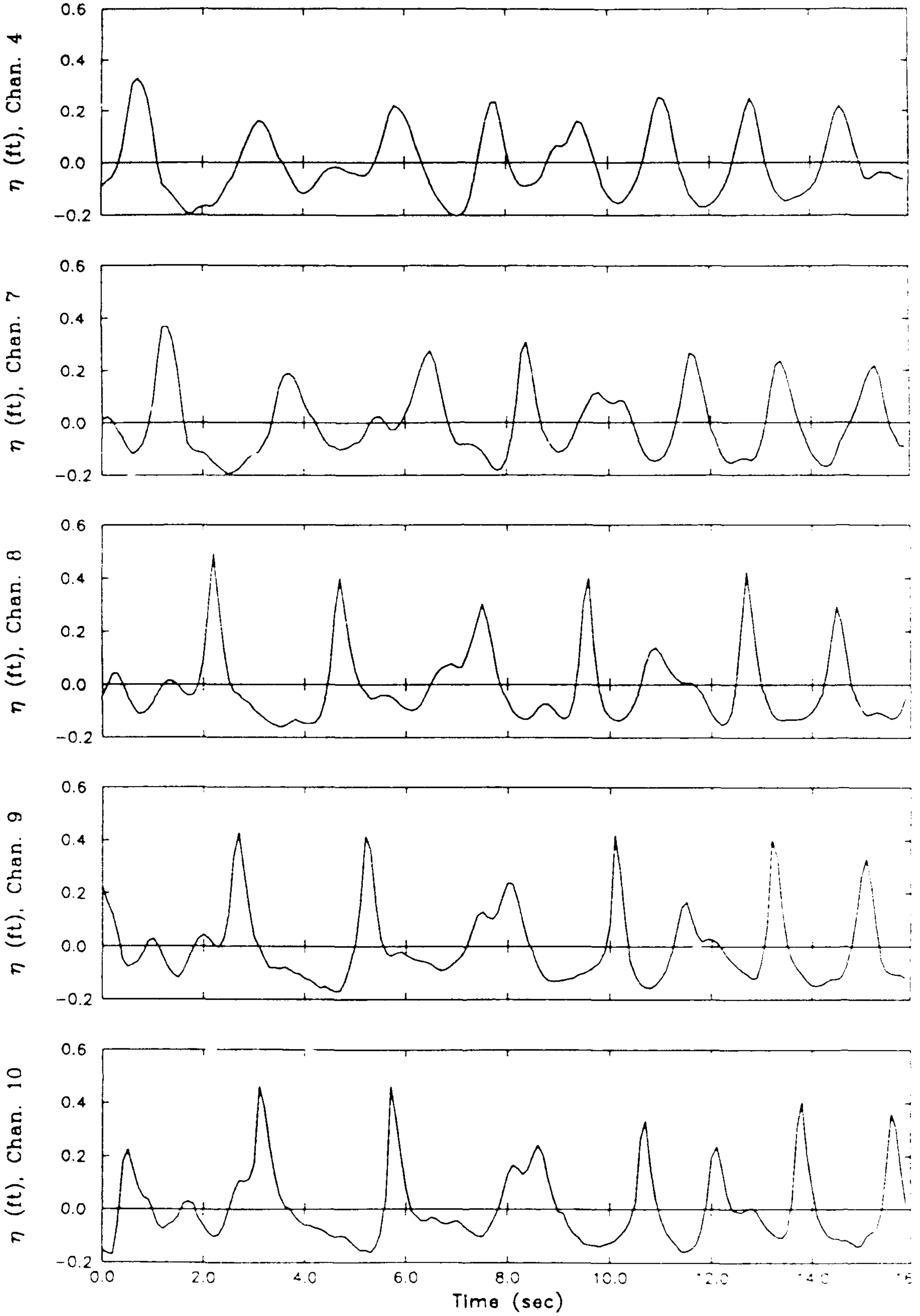
Generalized Beach Model, GBMD3302



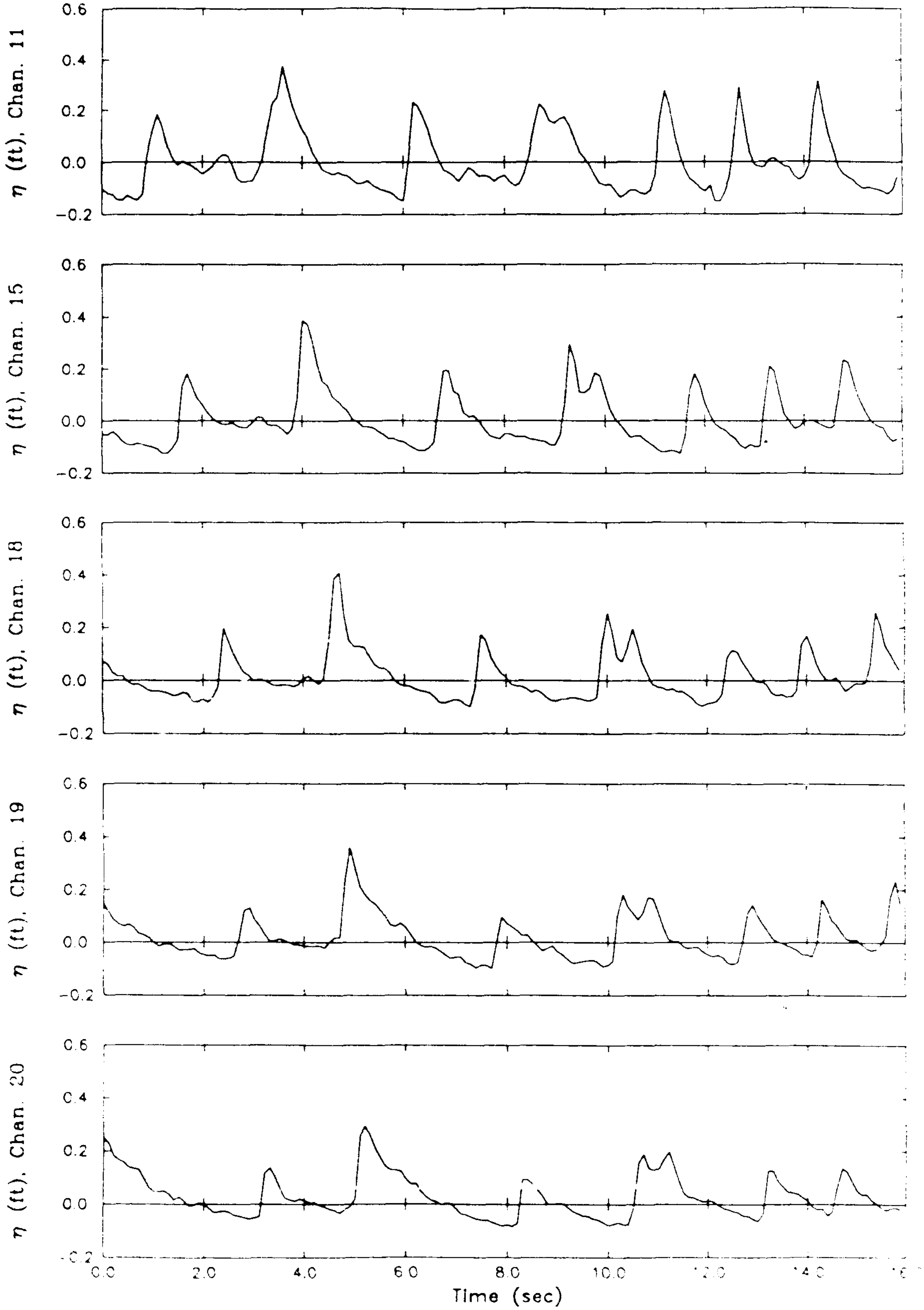
Generalized Beach Model, GBMD3602



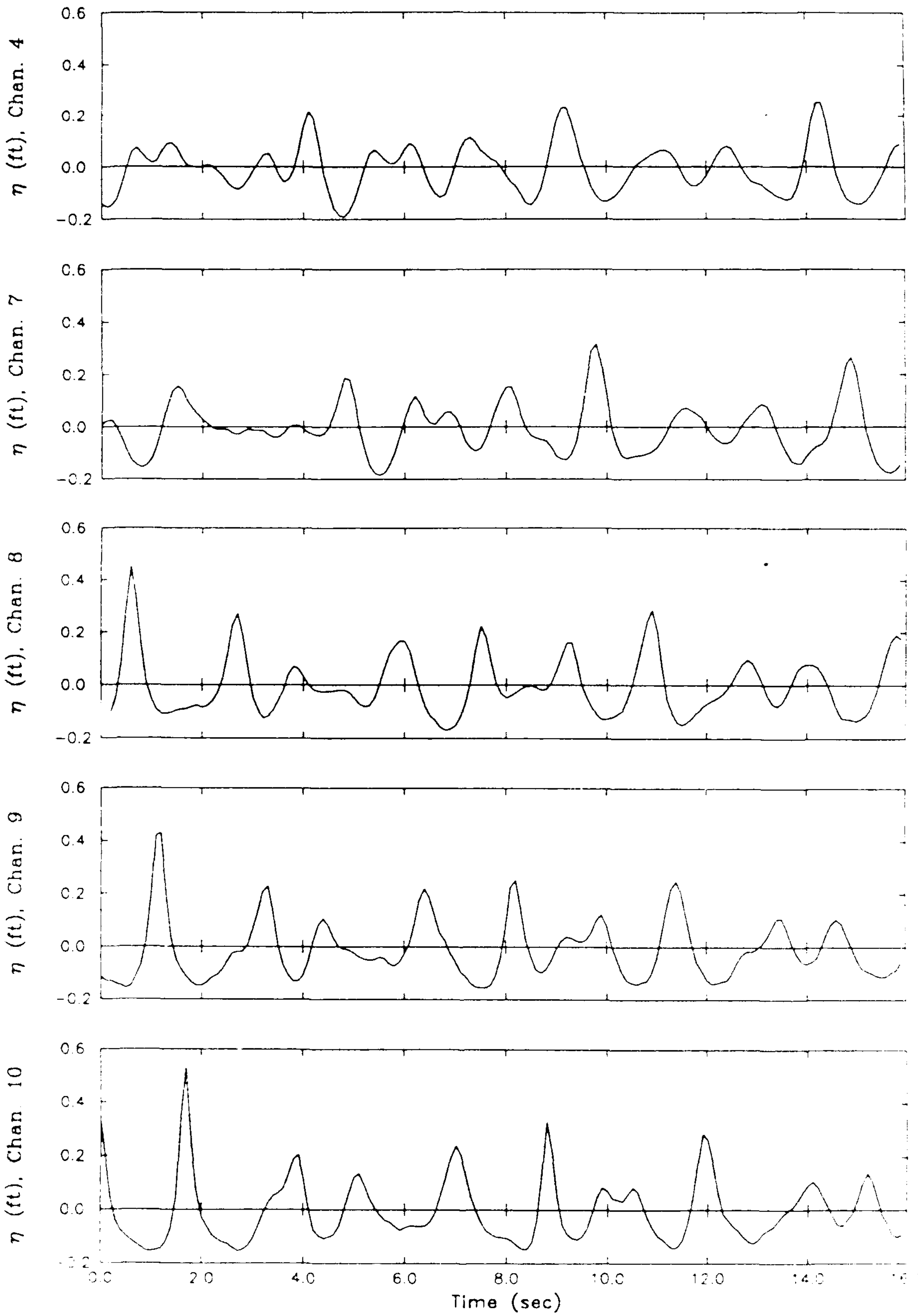
Generalized Beach Model, GBMD3602



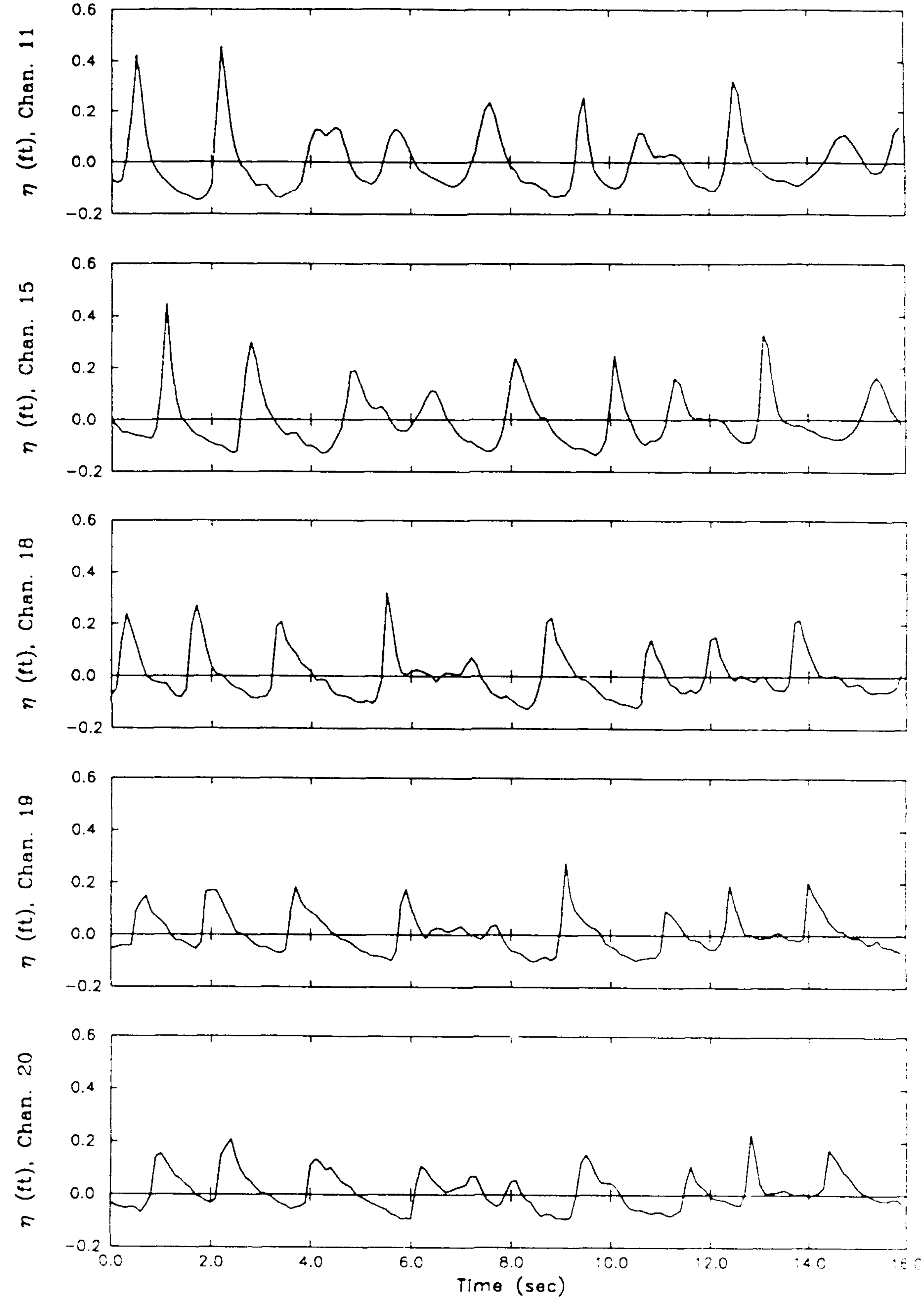
Generalized Beach Model, GBMD3902



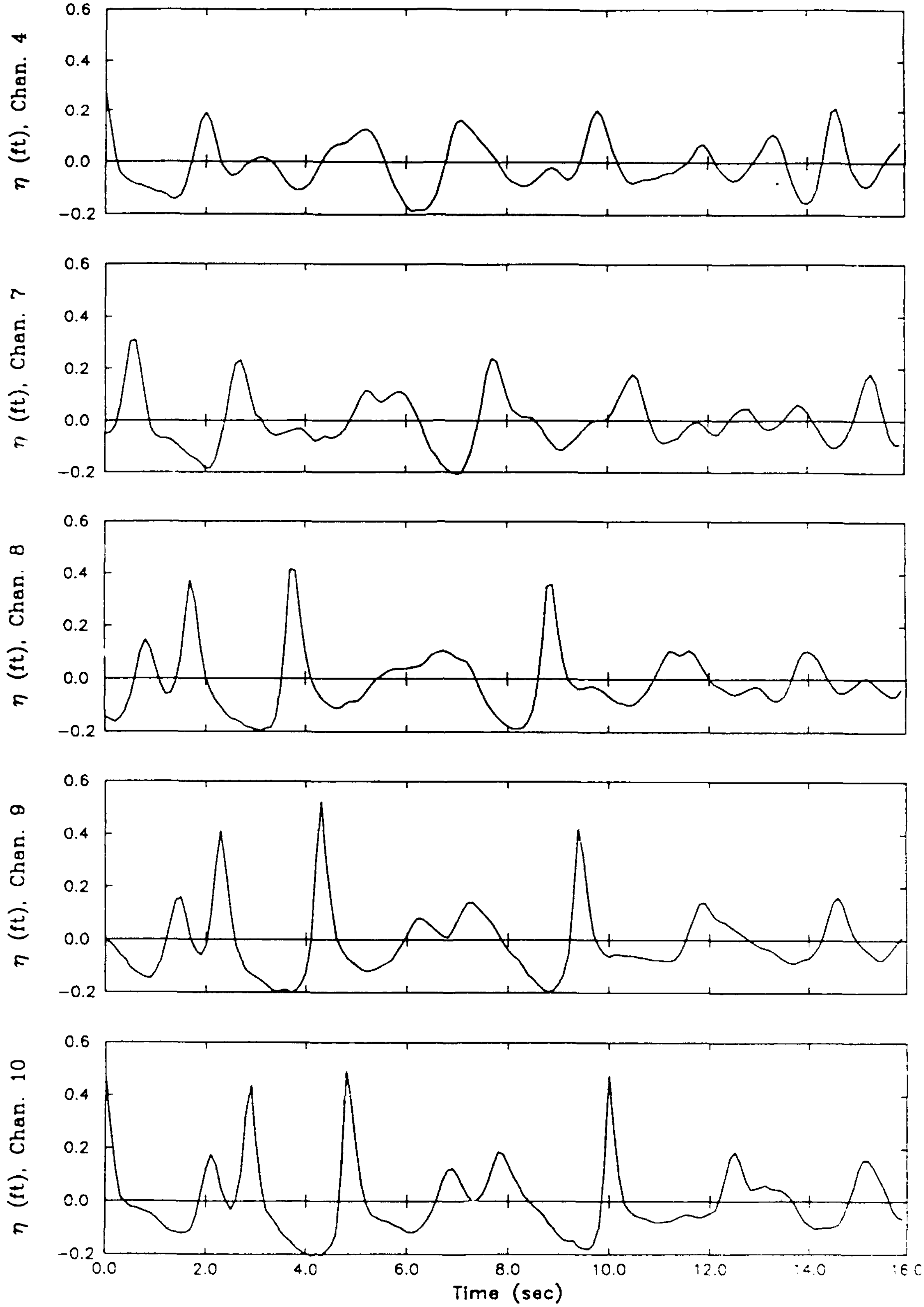
Generalized Beach Model, GBMD3902



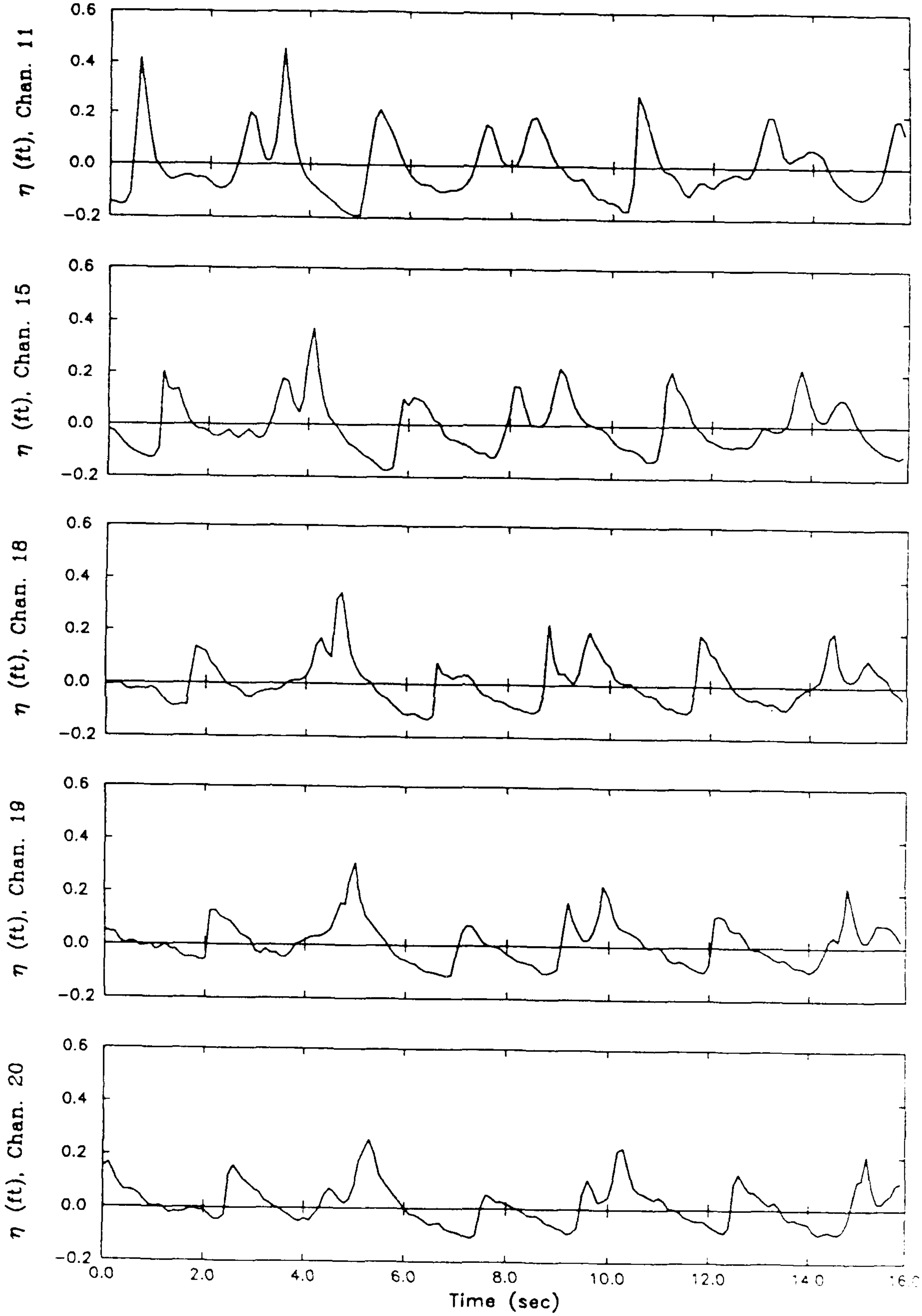
Generalized Beach Model, GBMD4302



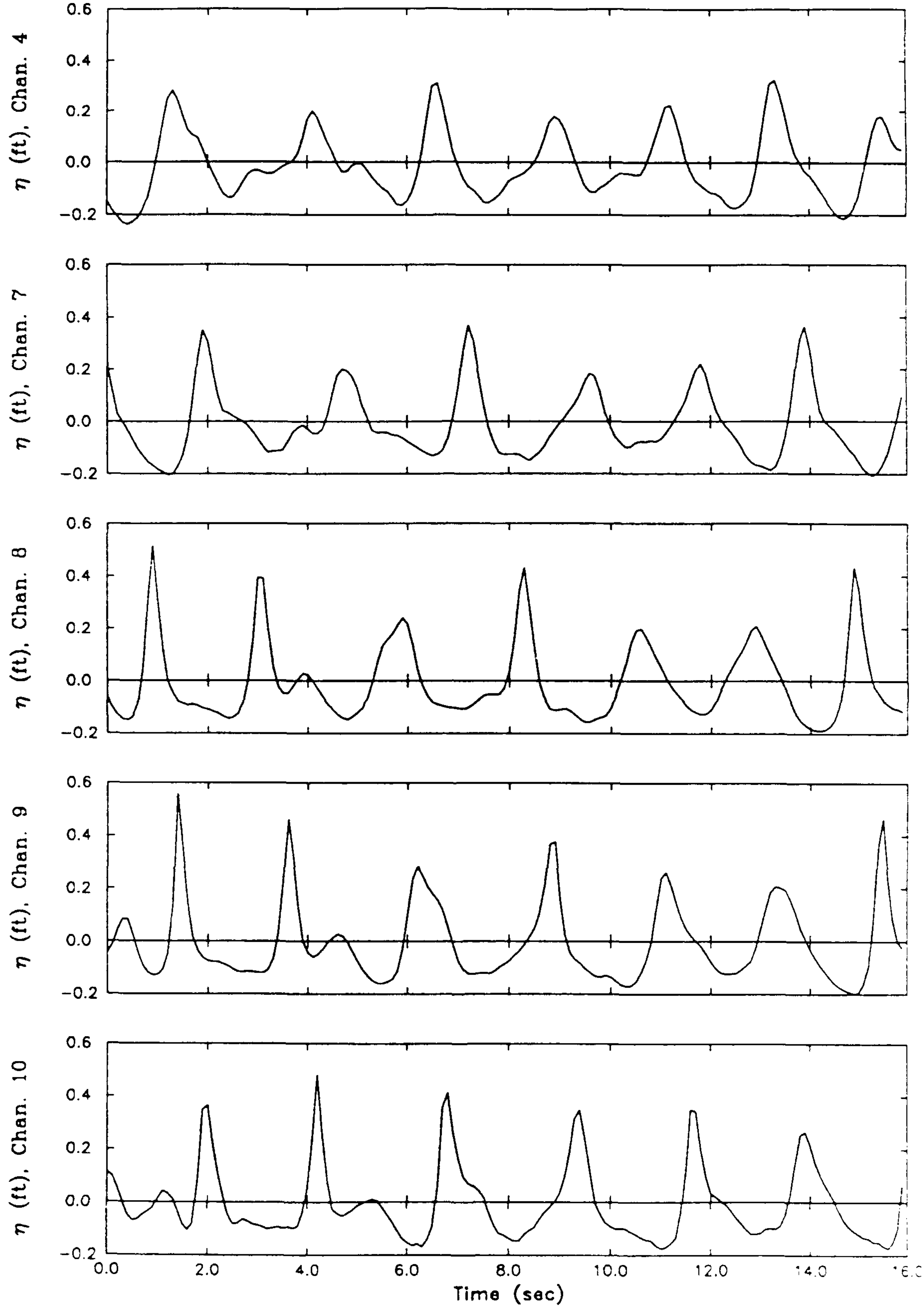
Generalized Beach Model, GBMD4302



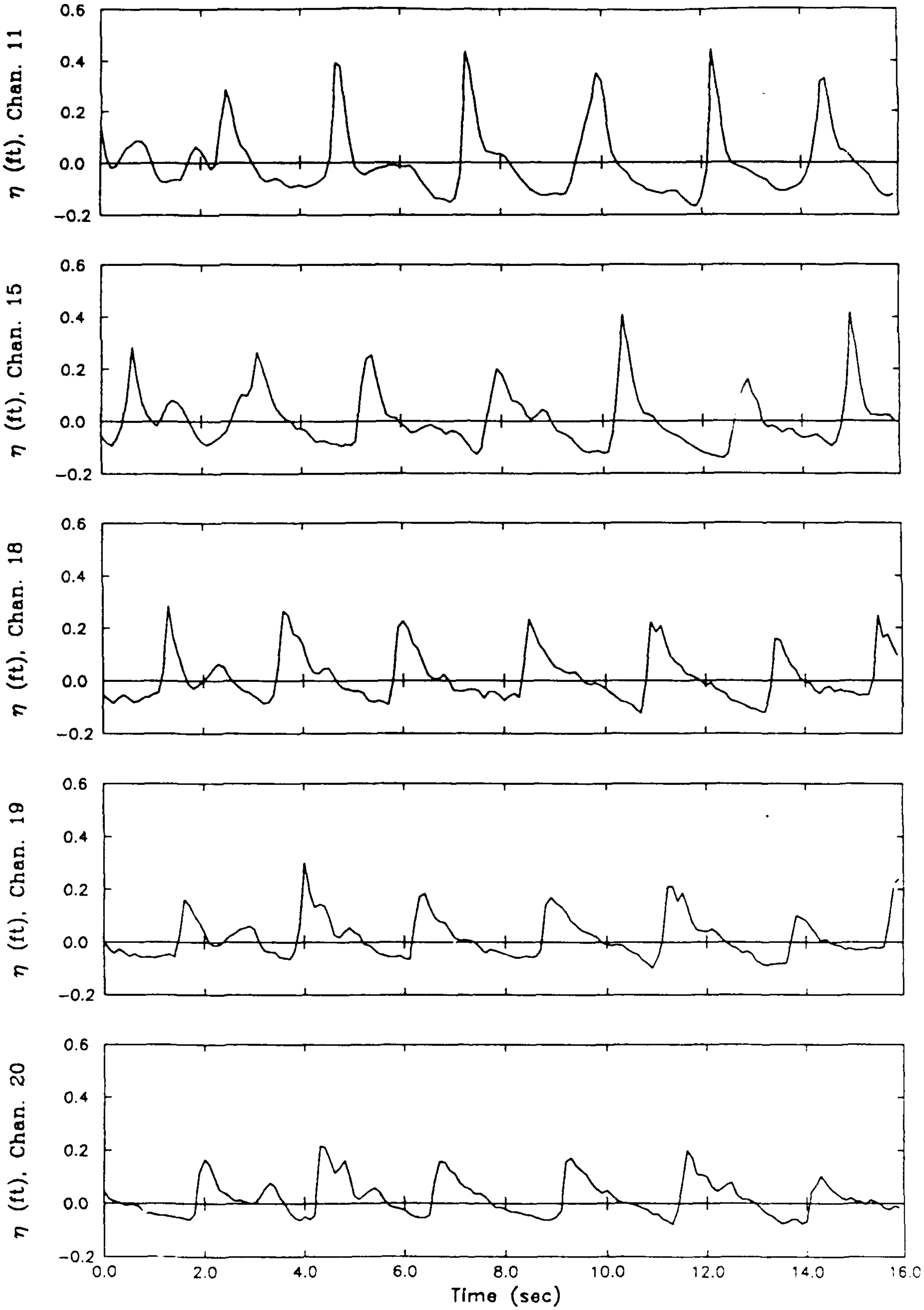
Generalized Beach Model, GBMD4602



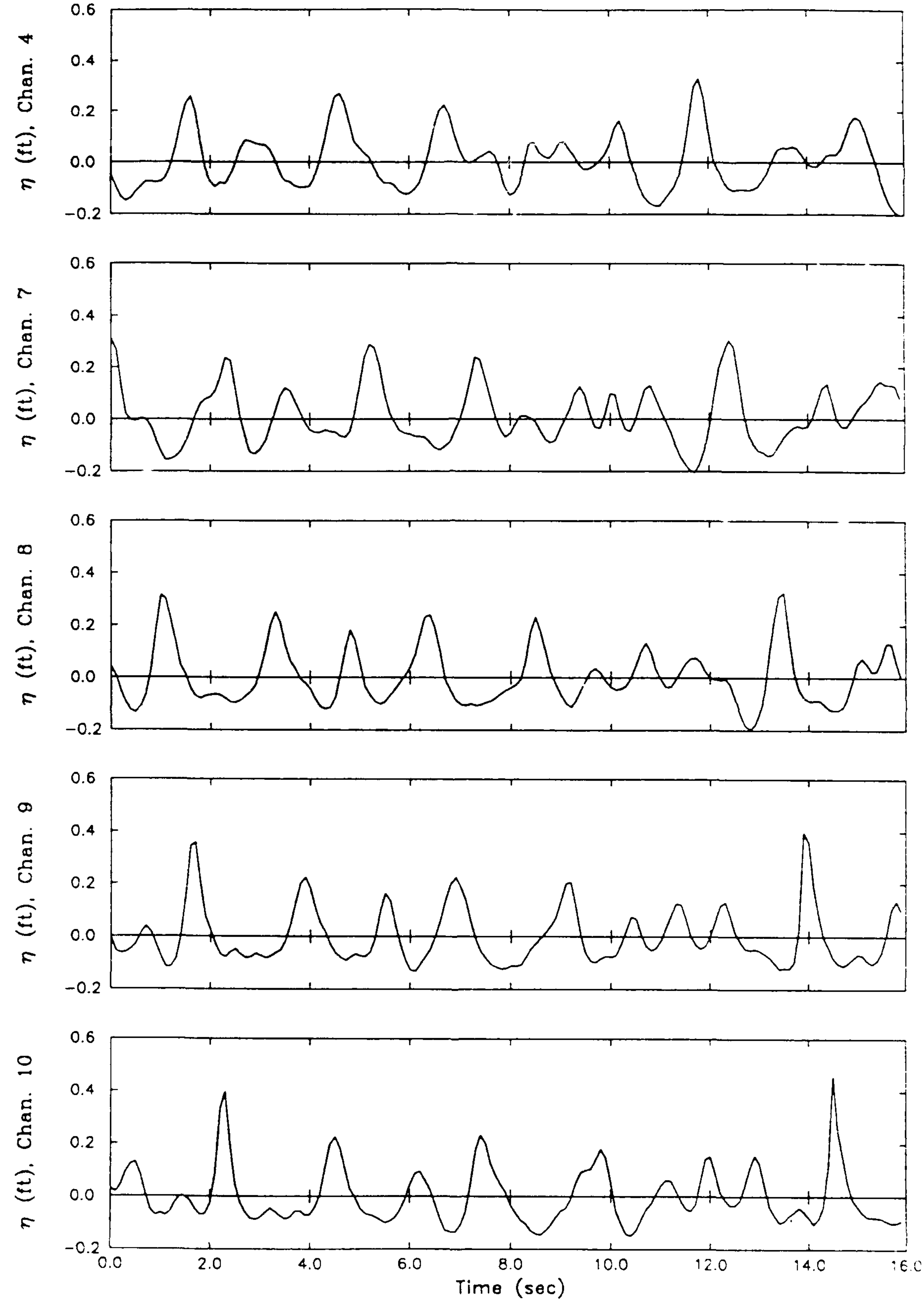
Generalized Beach Model, GBMD4602



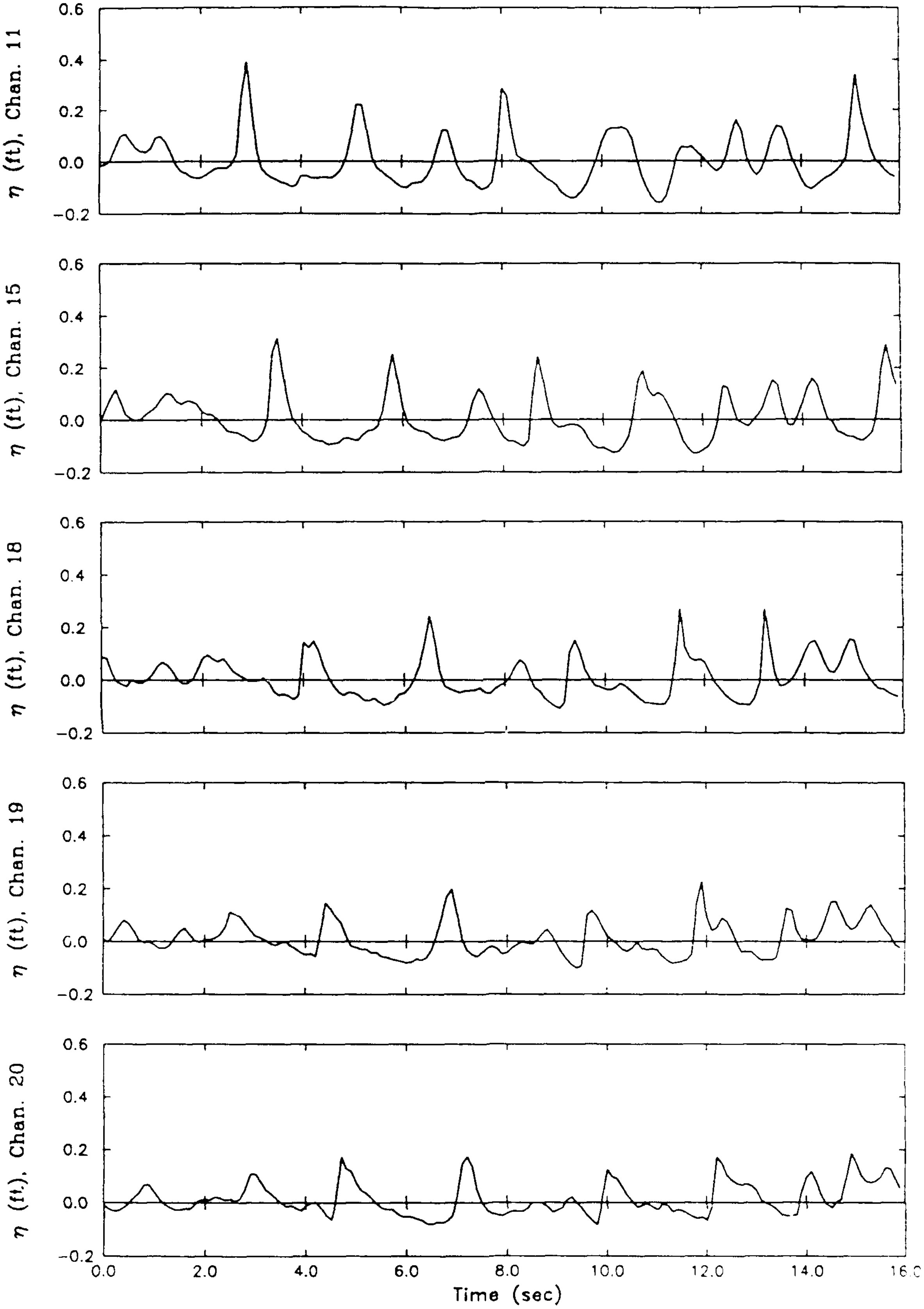
Generalized Beach Model, GBMD4902



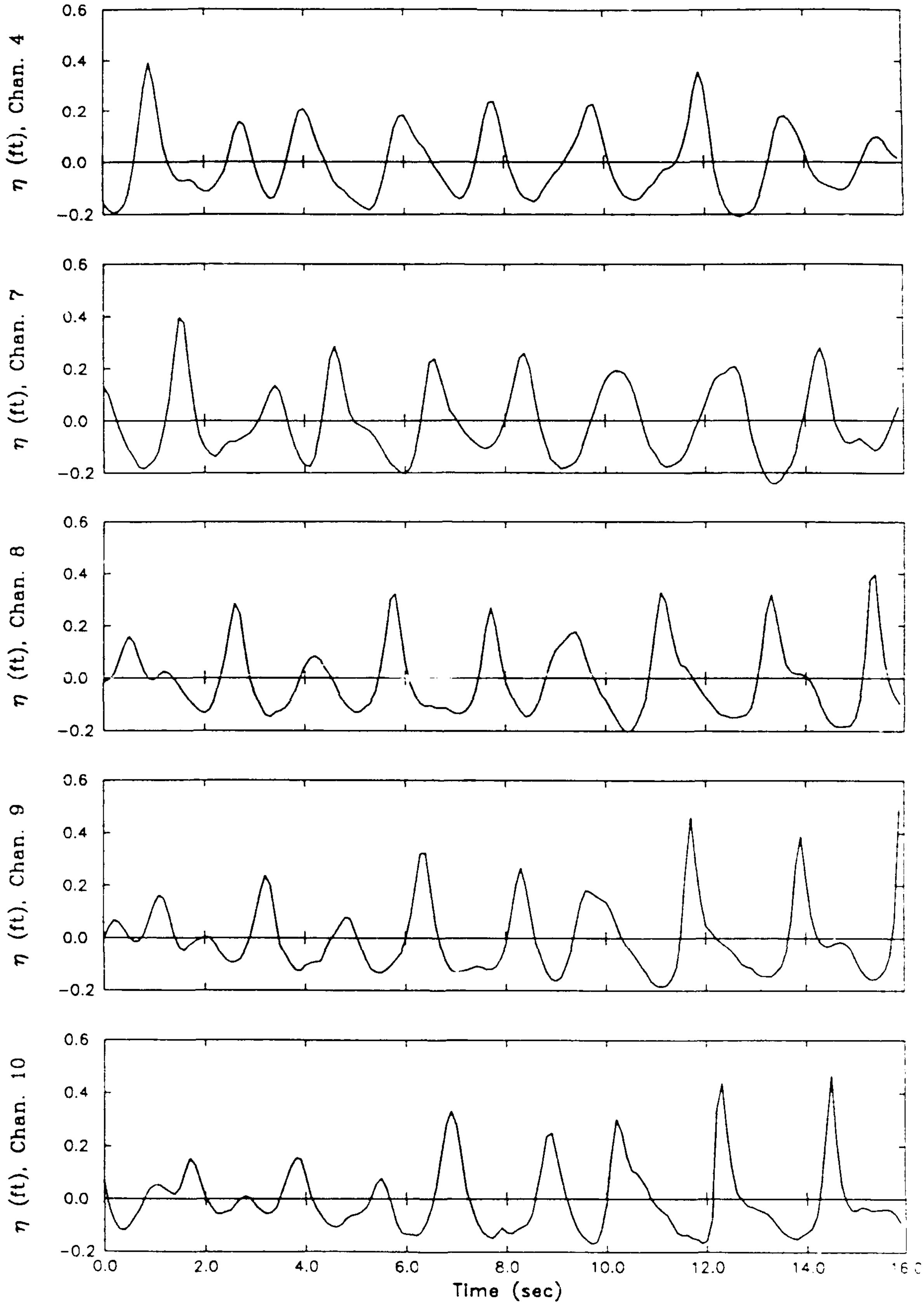
Generalized Beach Model, GBMD4902



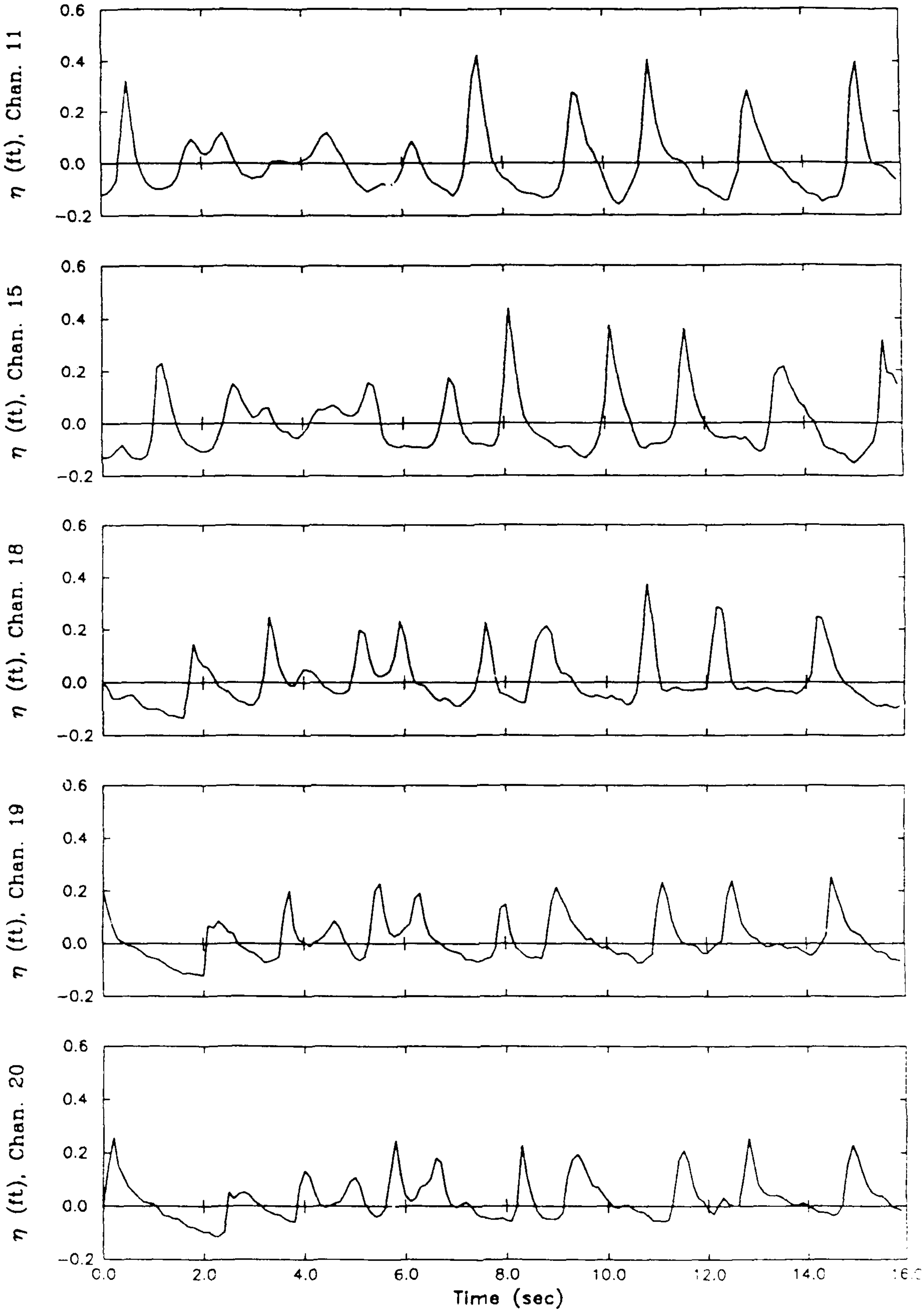
Generalized Beach Model, GBMD5102



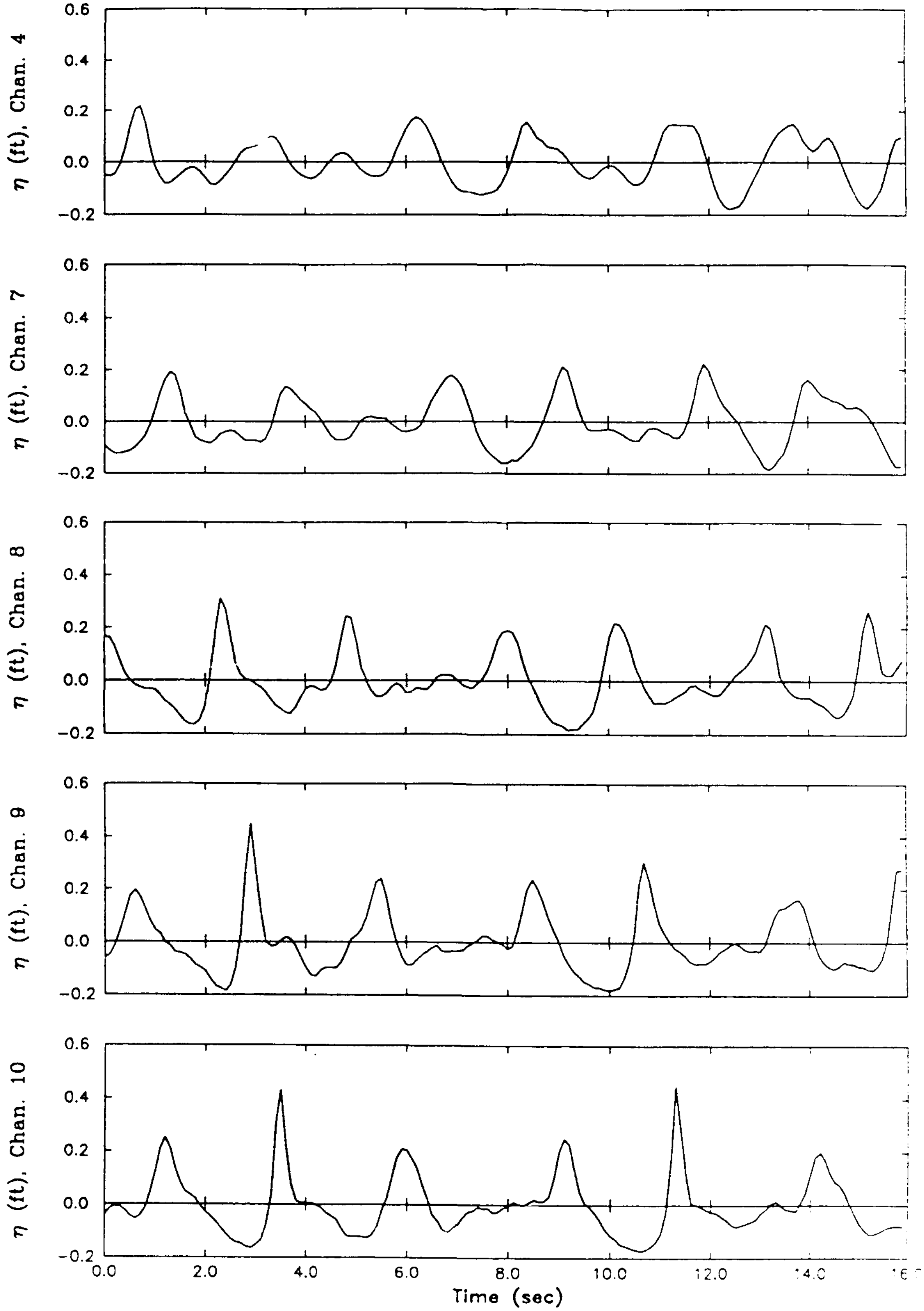
Generalized Beach Model, GBMD5102



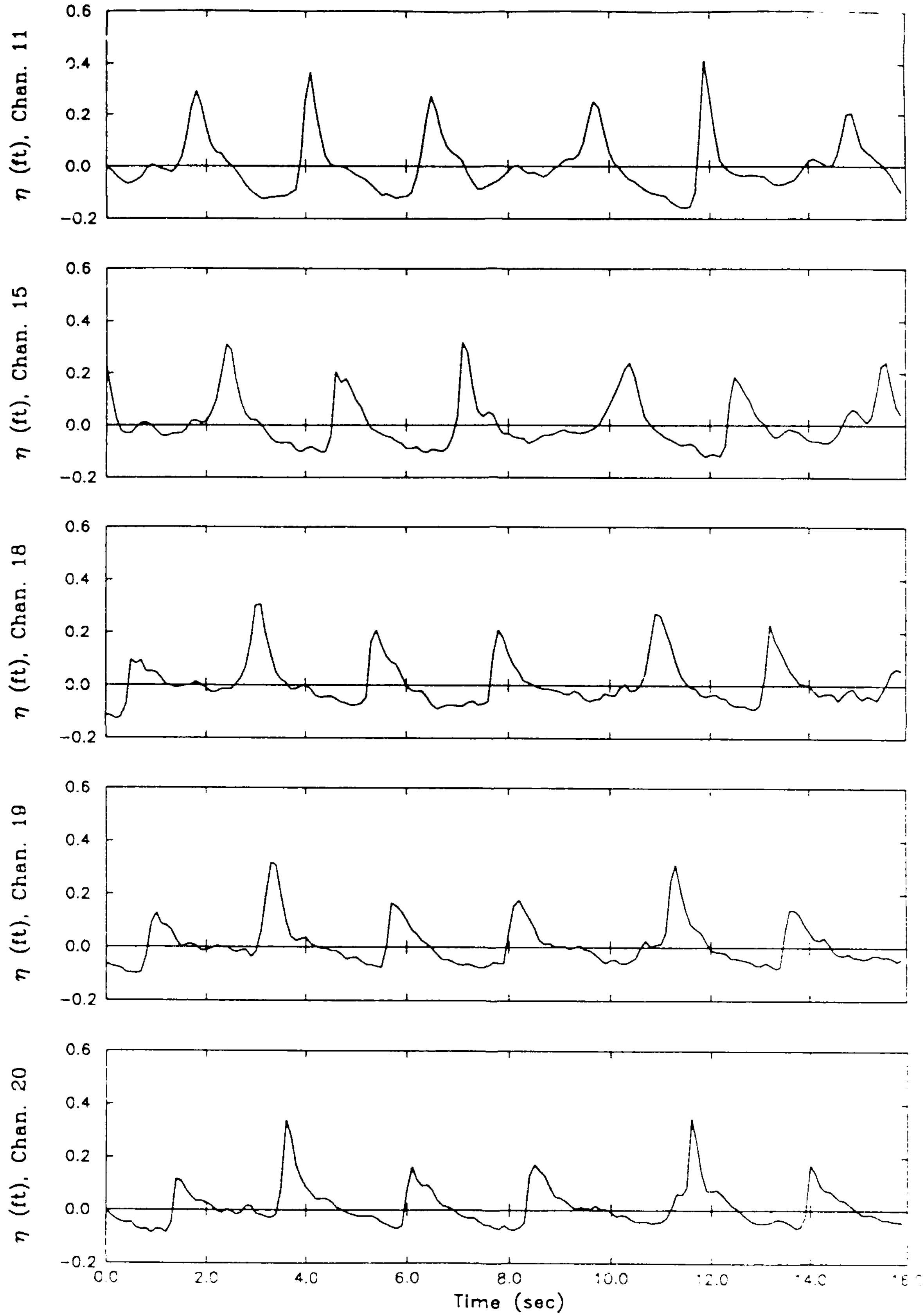
Generalized Beach Model, GBMD5202



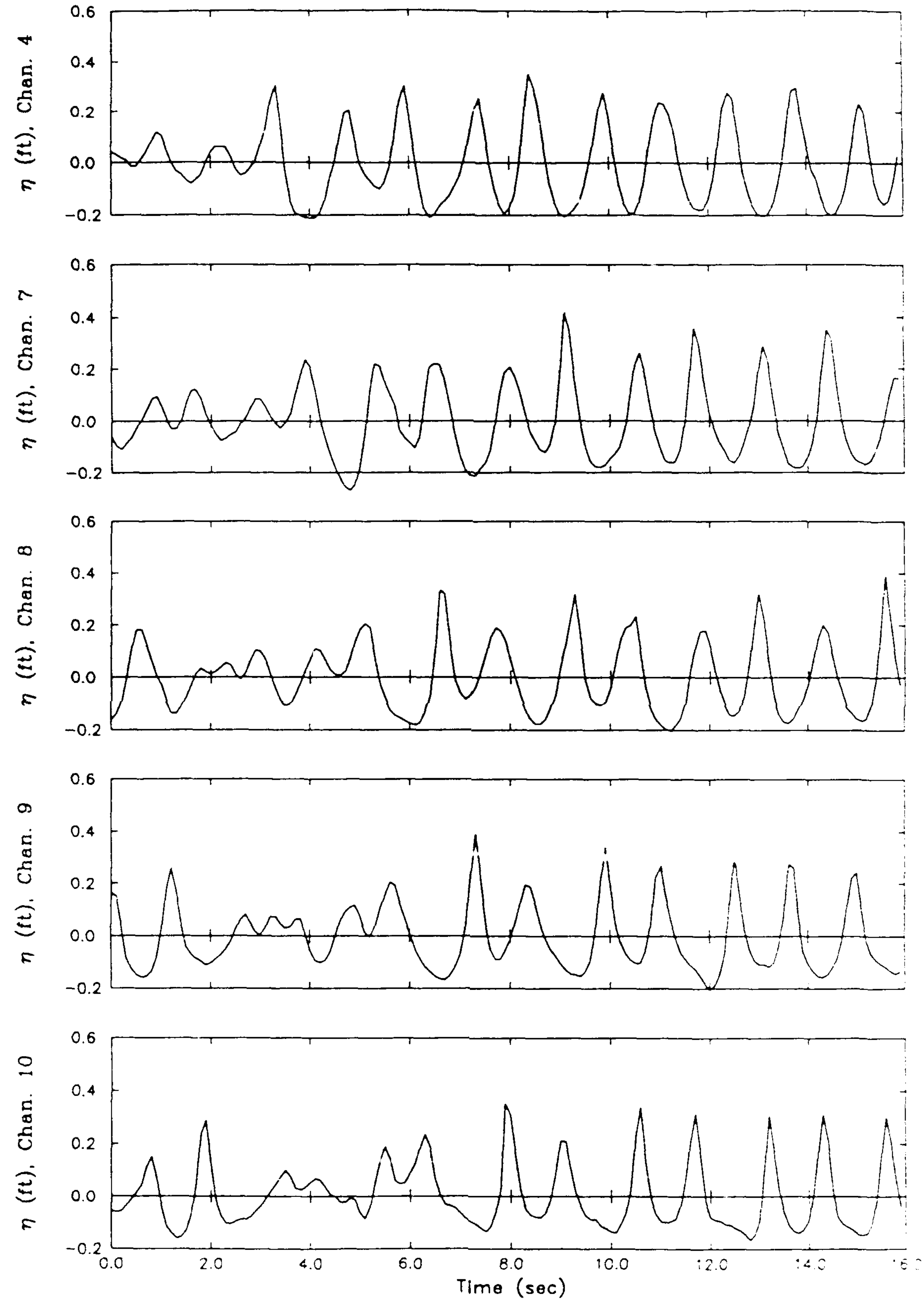
Generalized Beach Model, GBMD5202



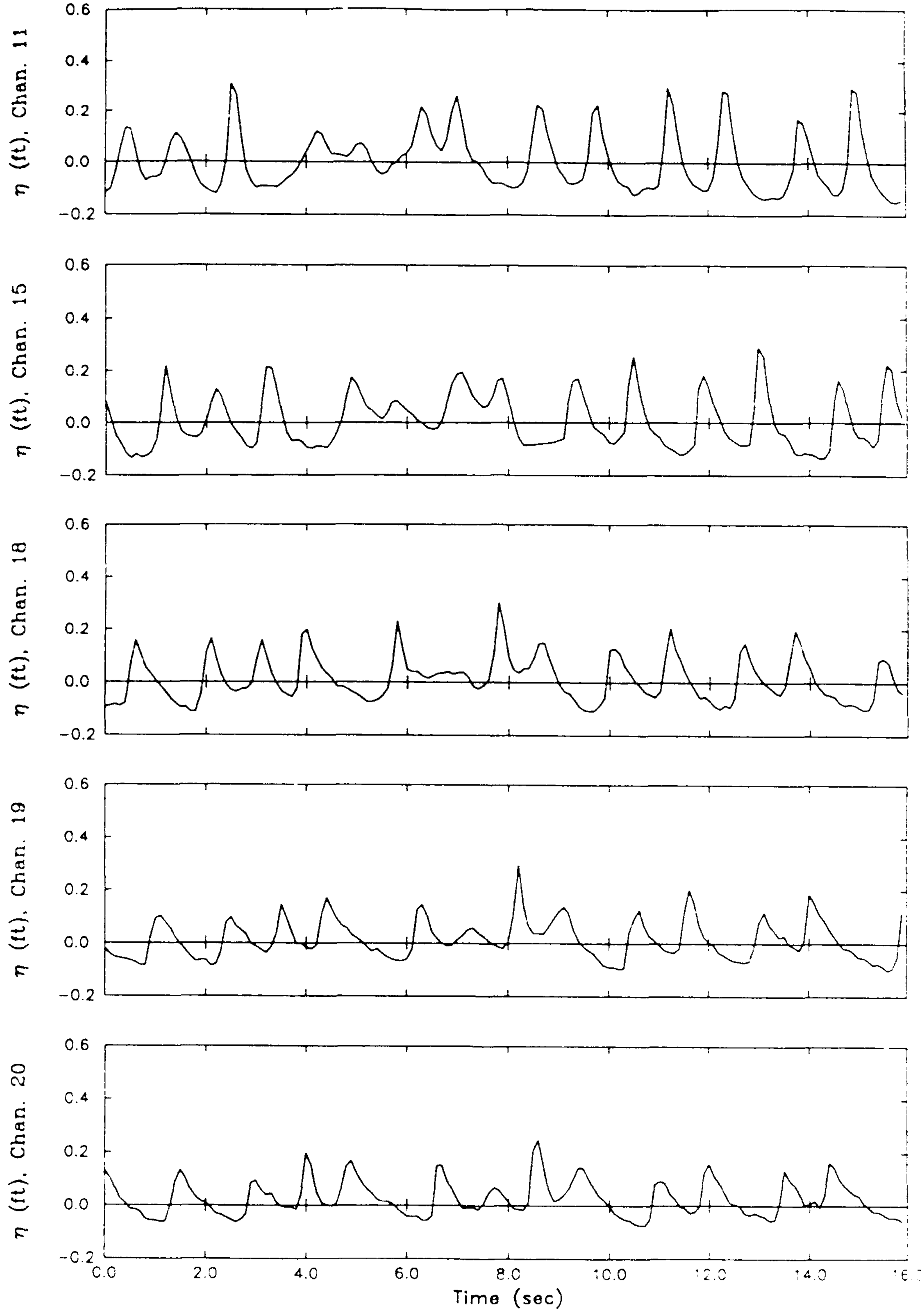
Generalized Beach Model, GBMD5302



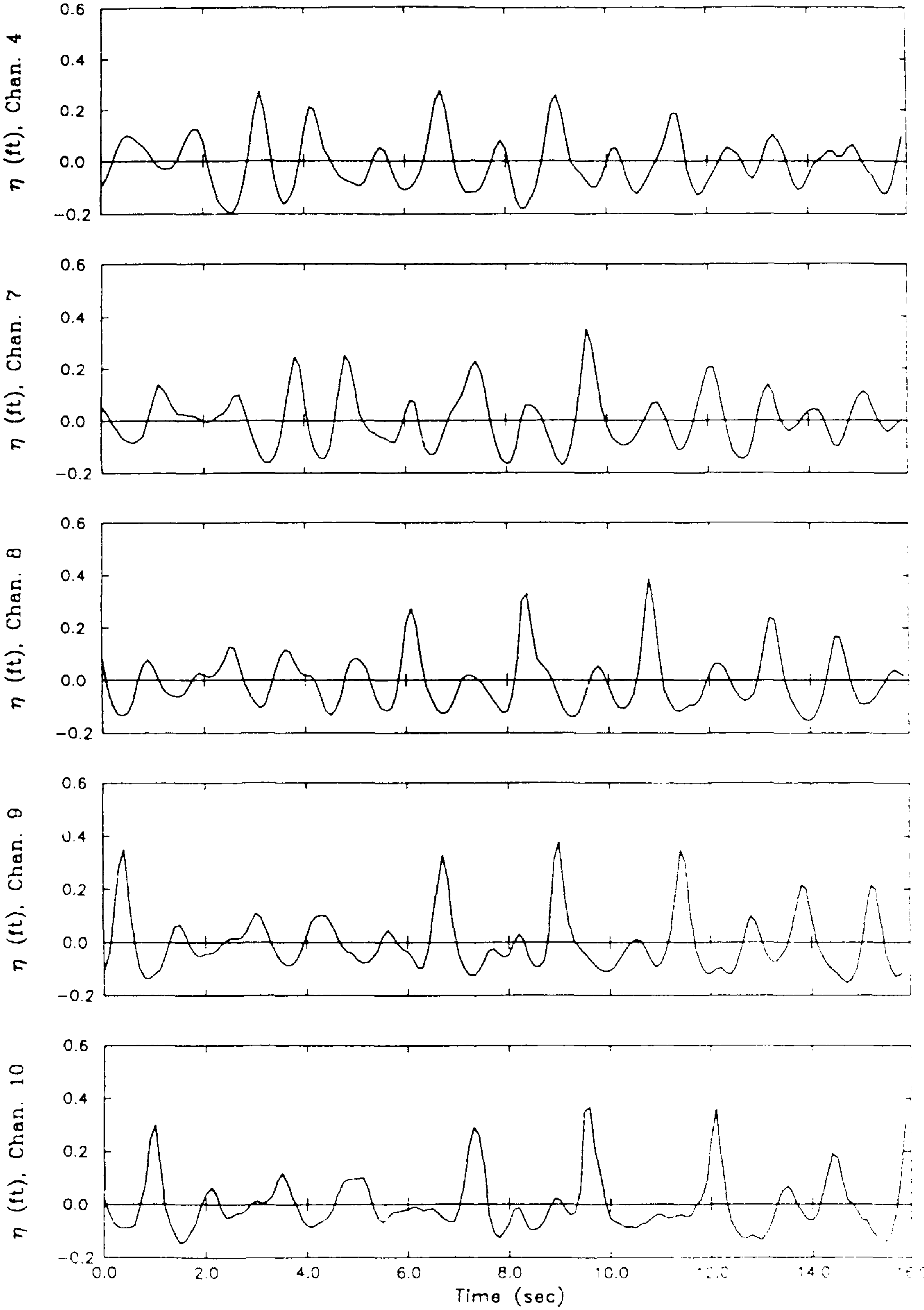
Generalized Beach Model, GBMD5302



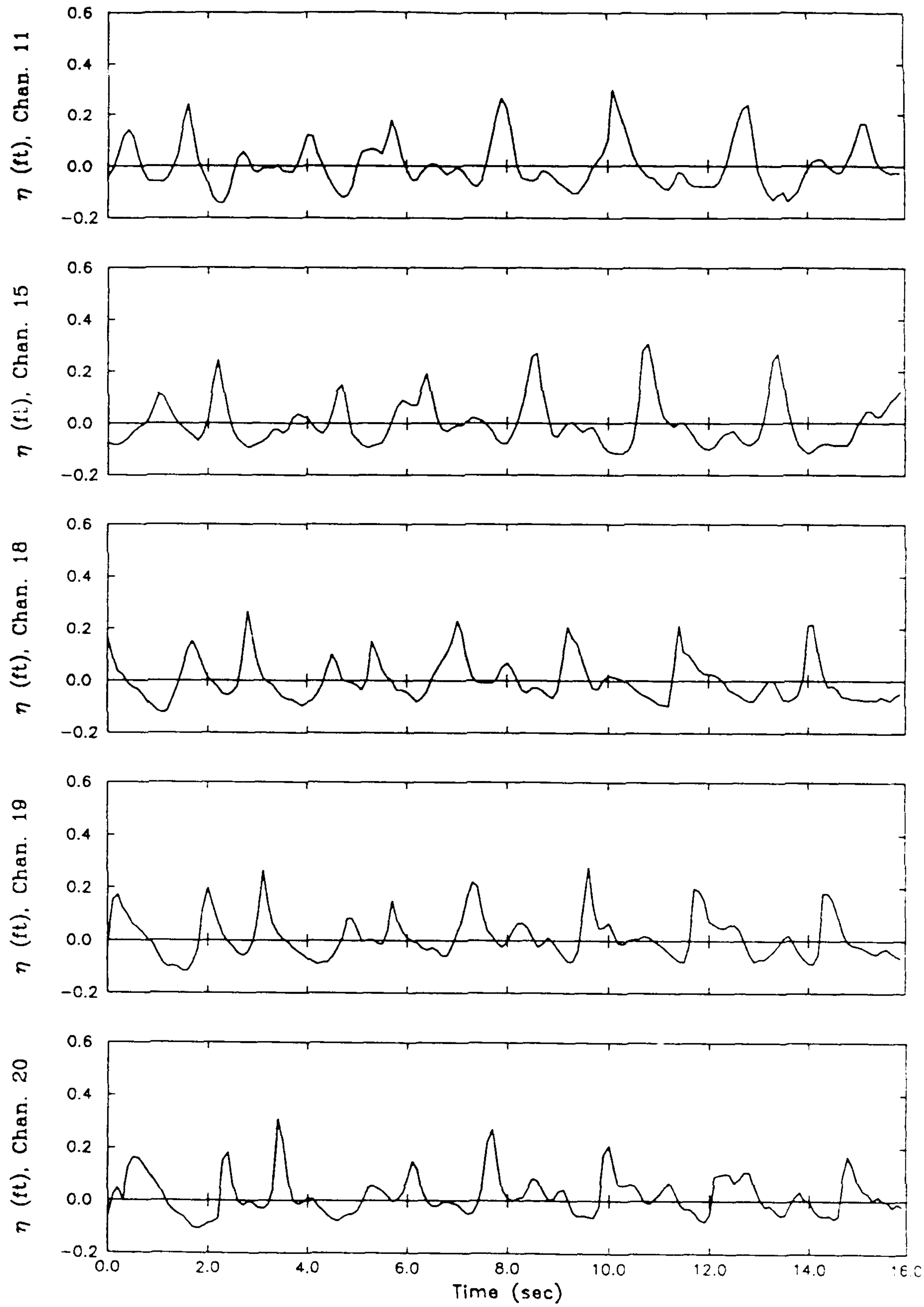
Generalized Beach Model, GBMD6103



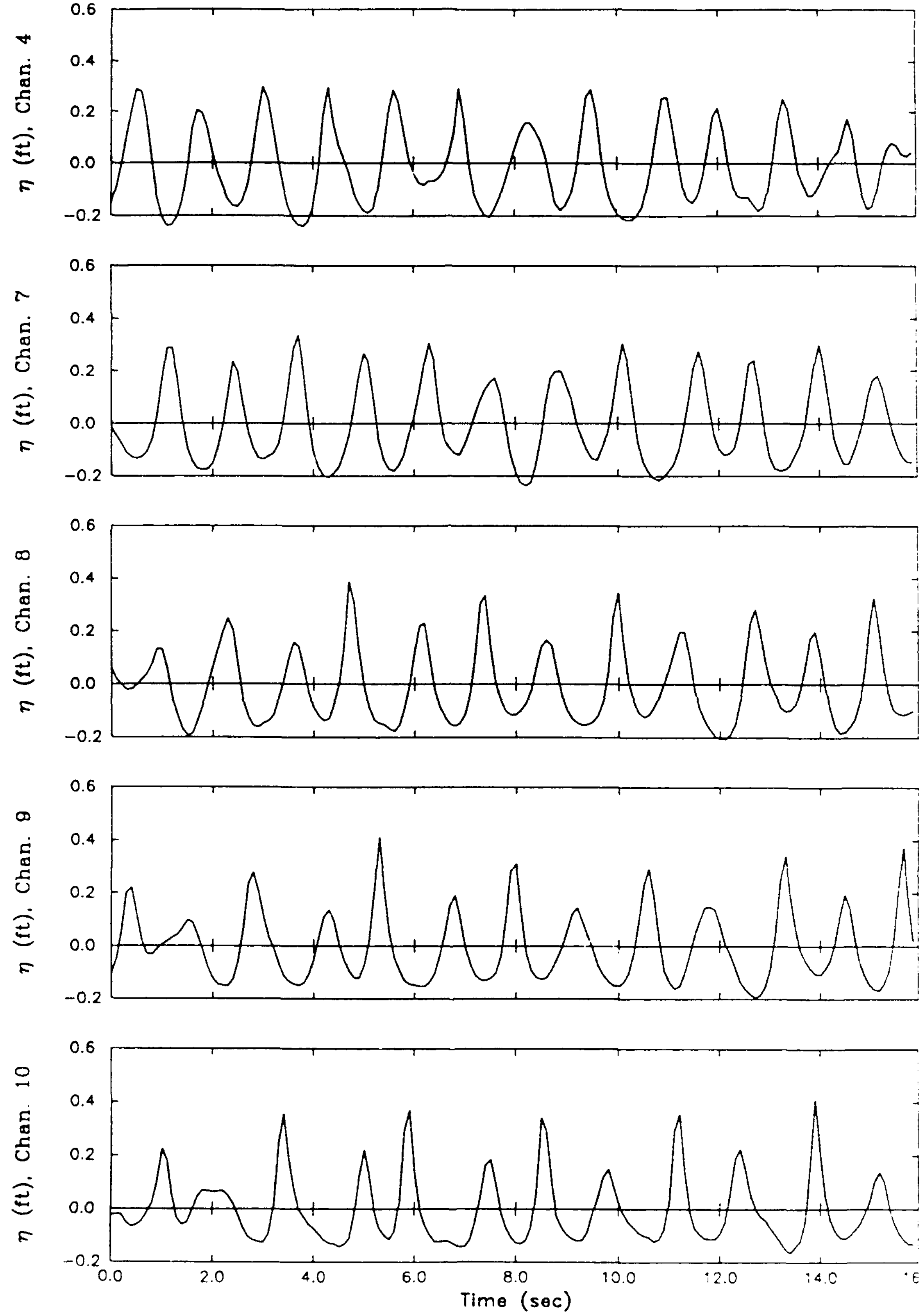
Generalized Beach Model, GBMD6103



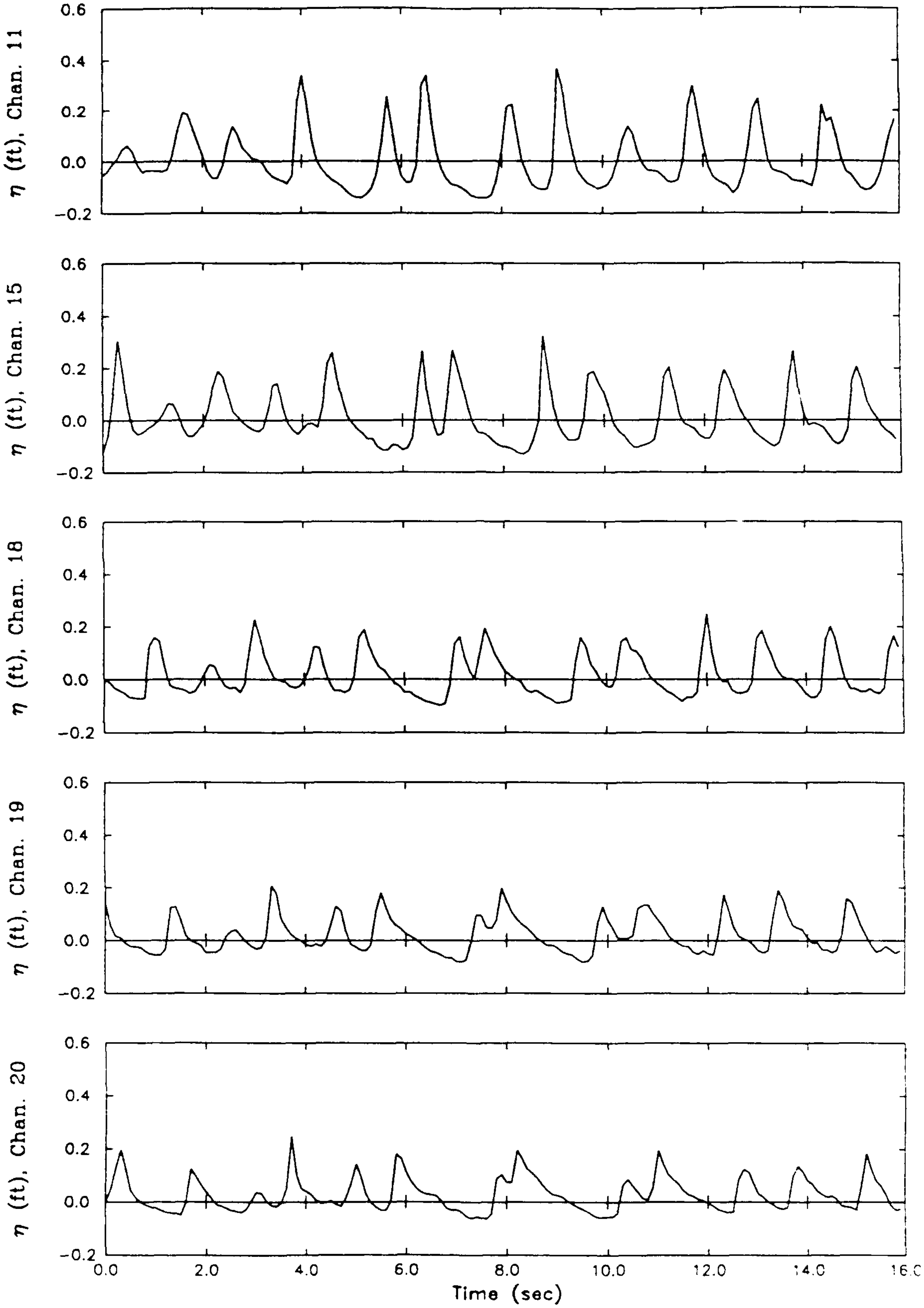
Generalized Beach Model, GBMD6203



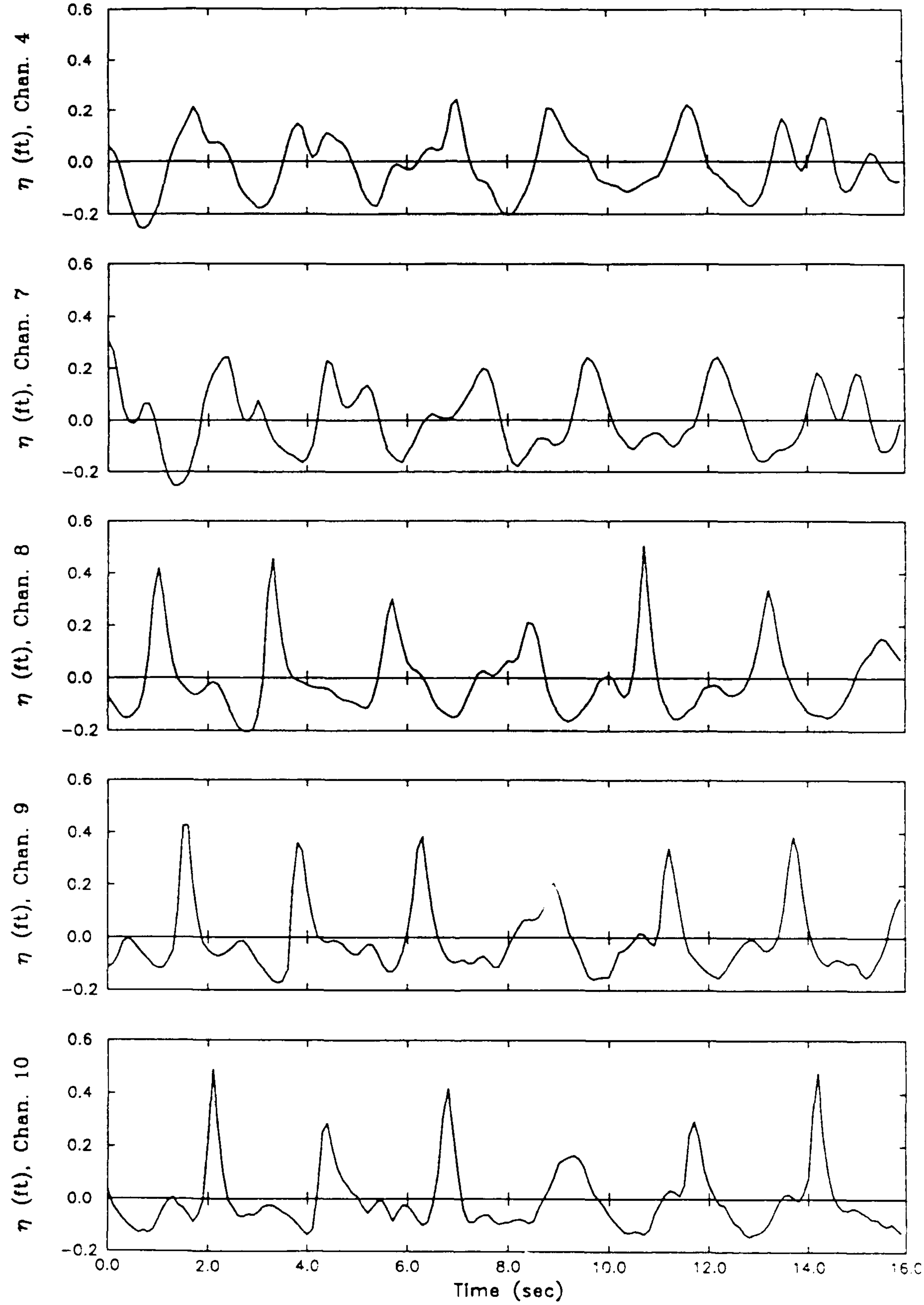
Generalized Beach Model, GBMD6203



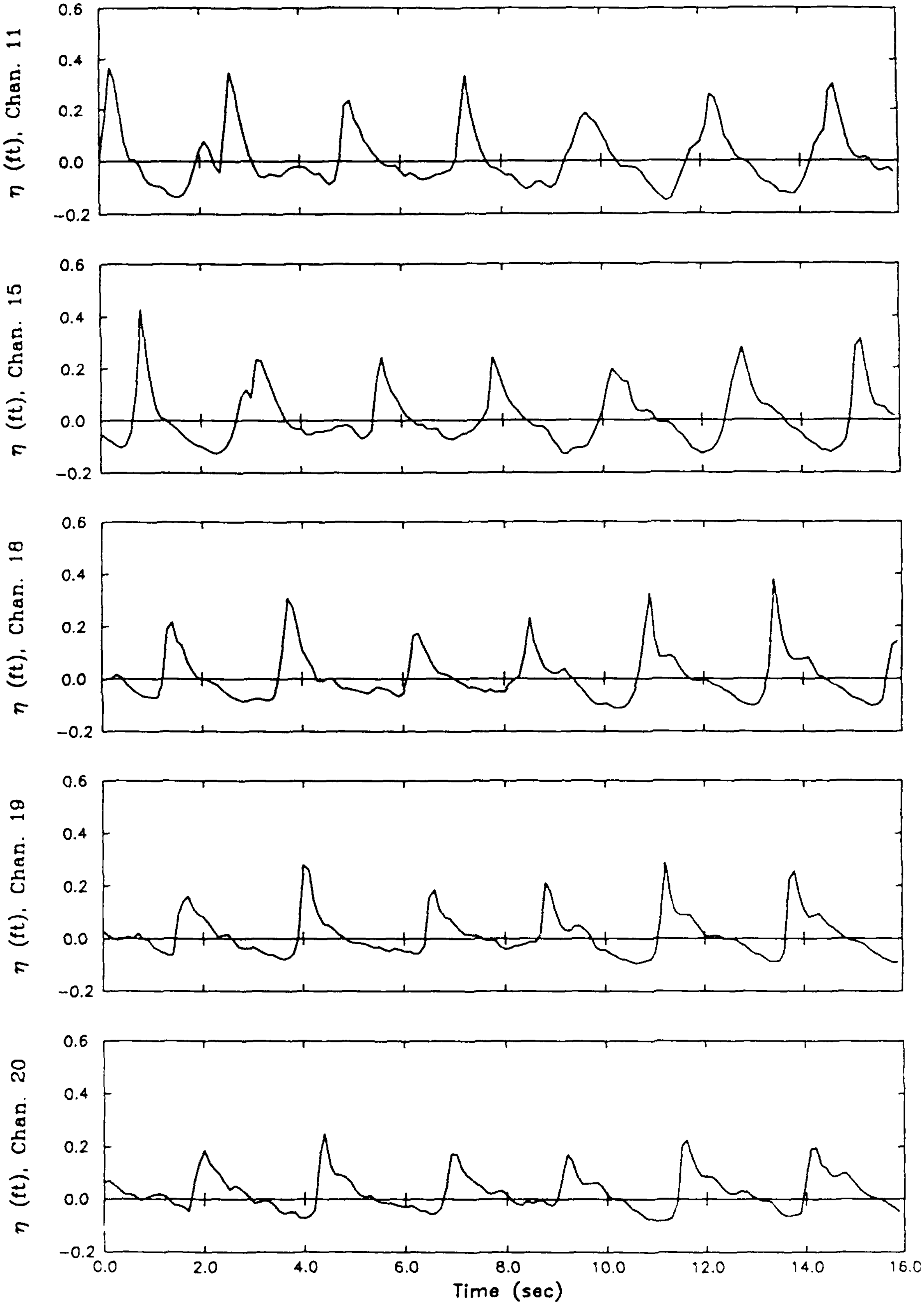
Generalized Beach Model, GBMD6303



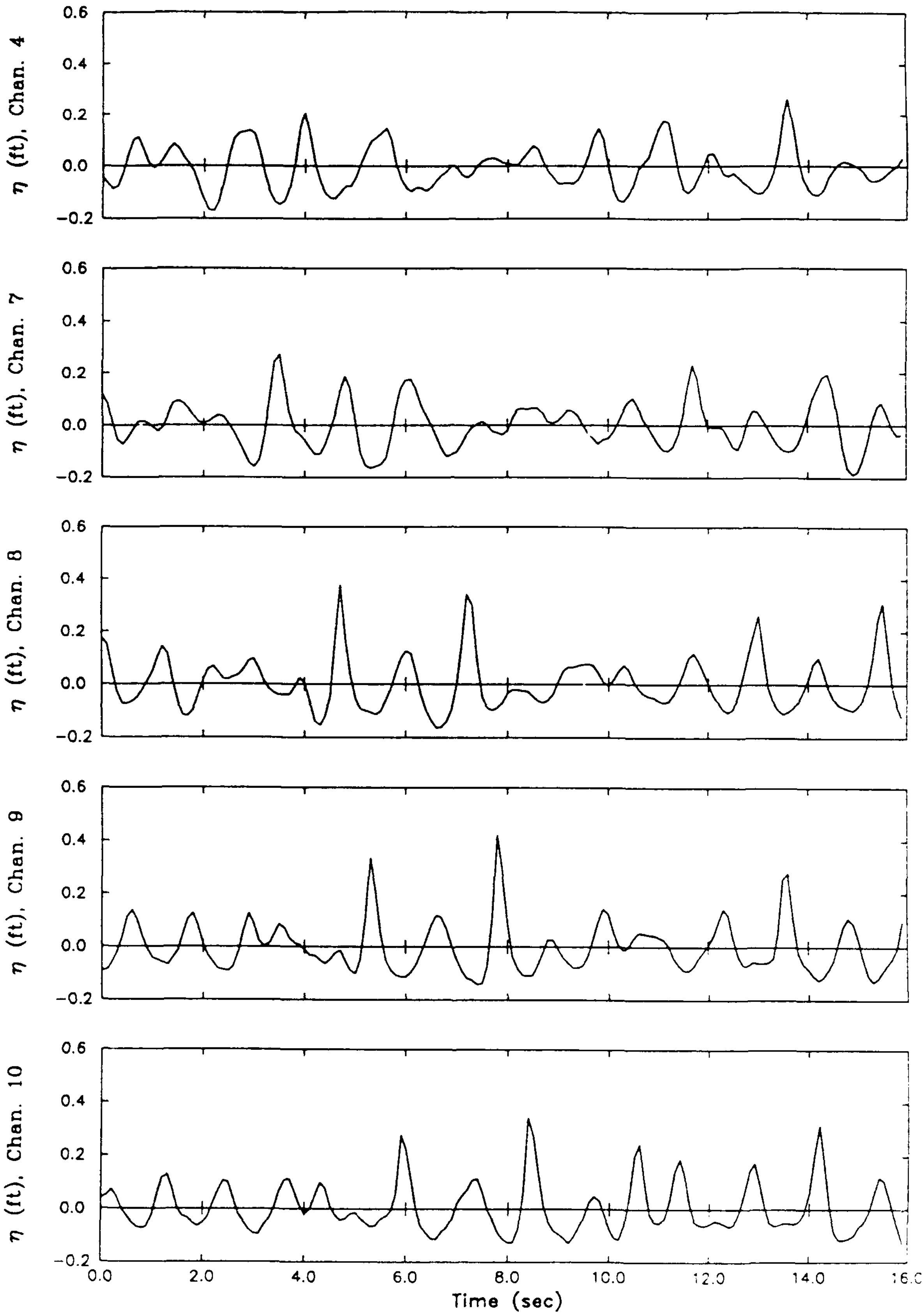
Generalized Beach Model, GBMD6303



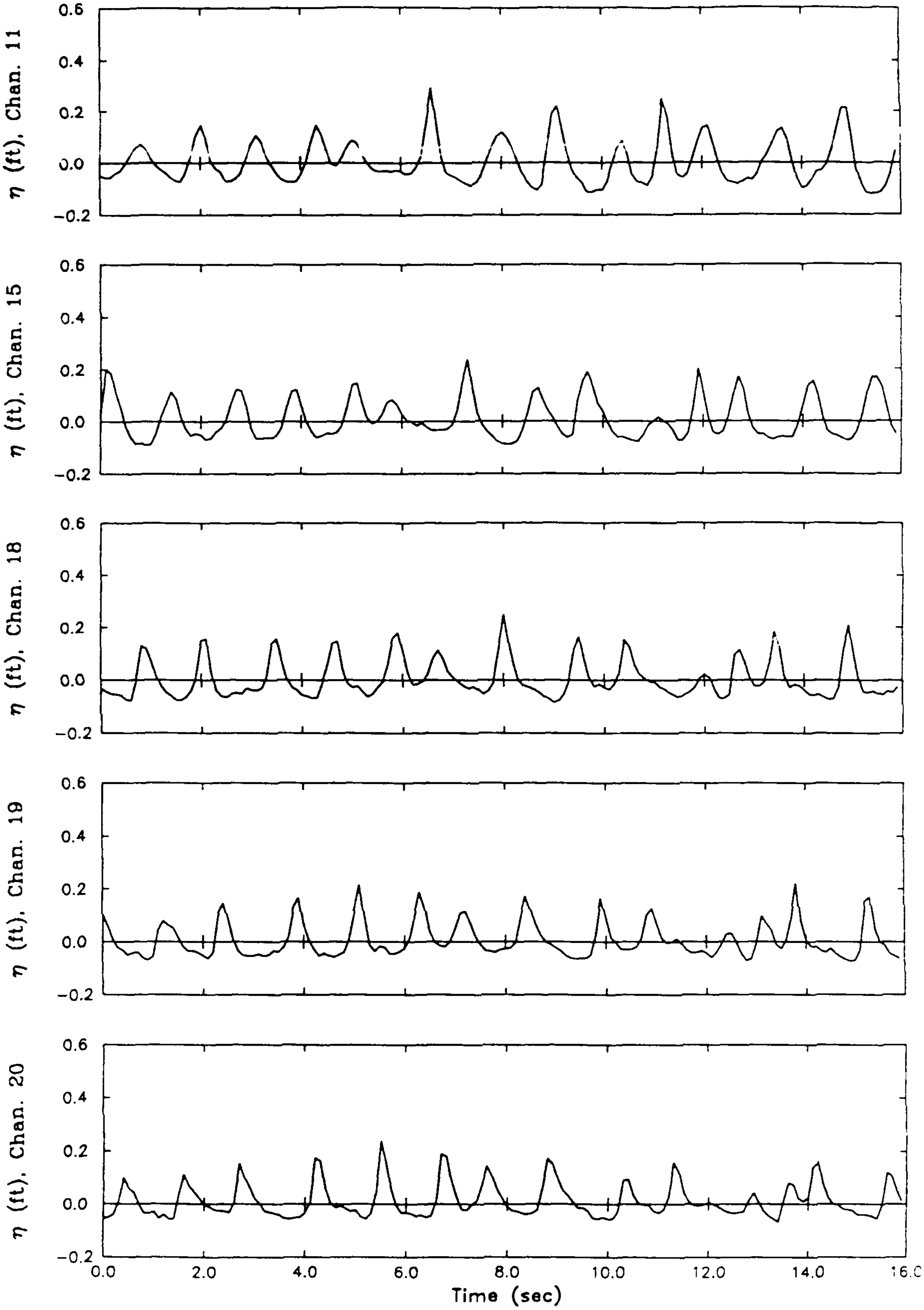
Generalized Beach Model, GBMD6403



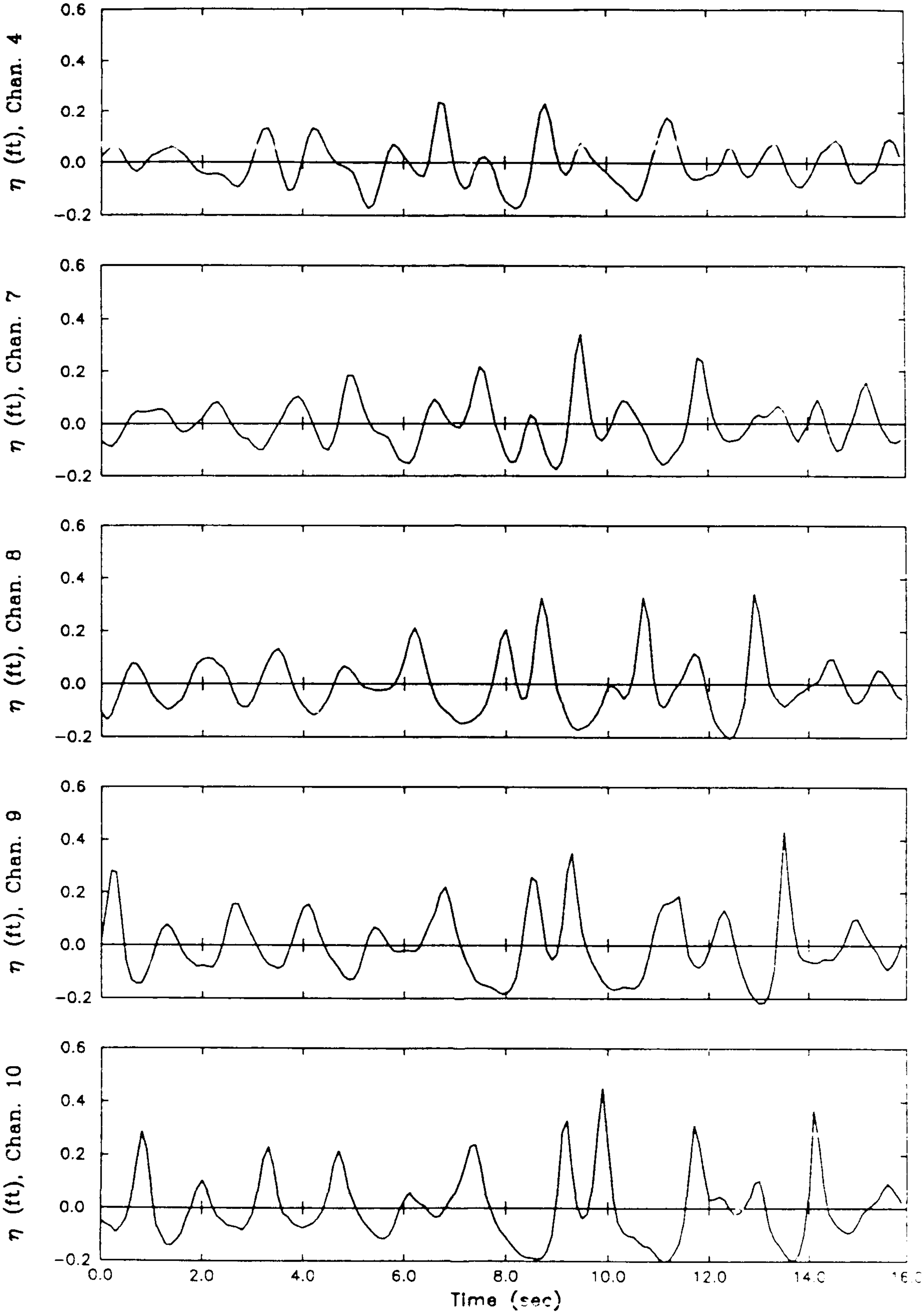
Generalized Beach Model, GBMD6403



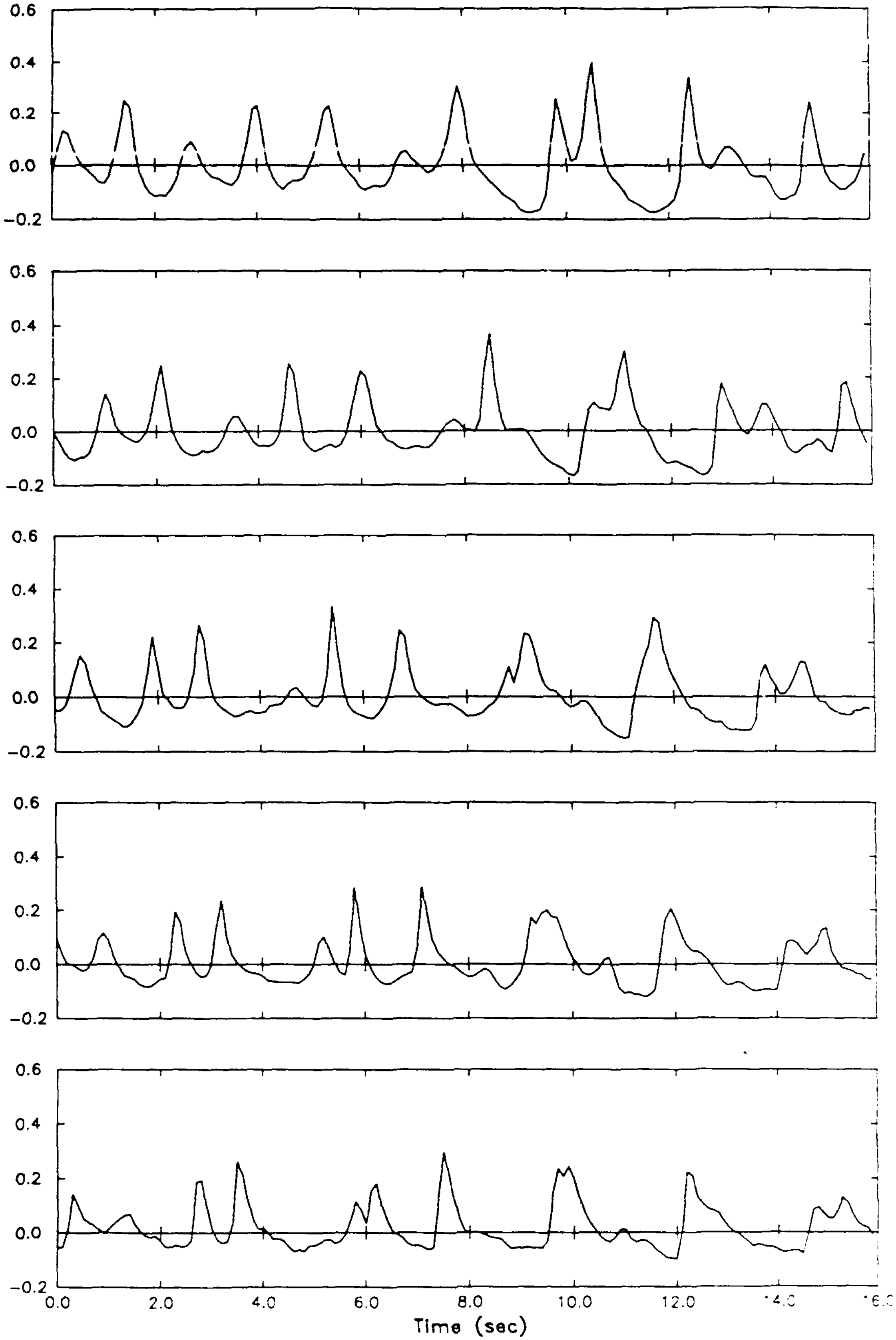
Generalized Beach Model, GBMD6503



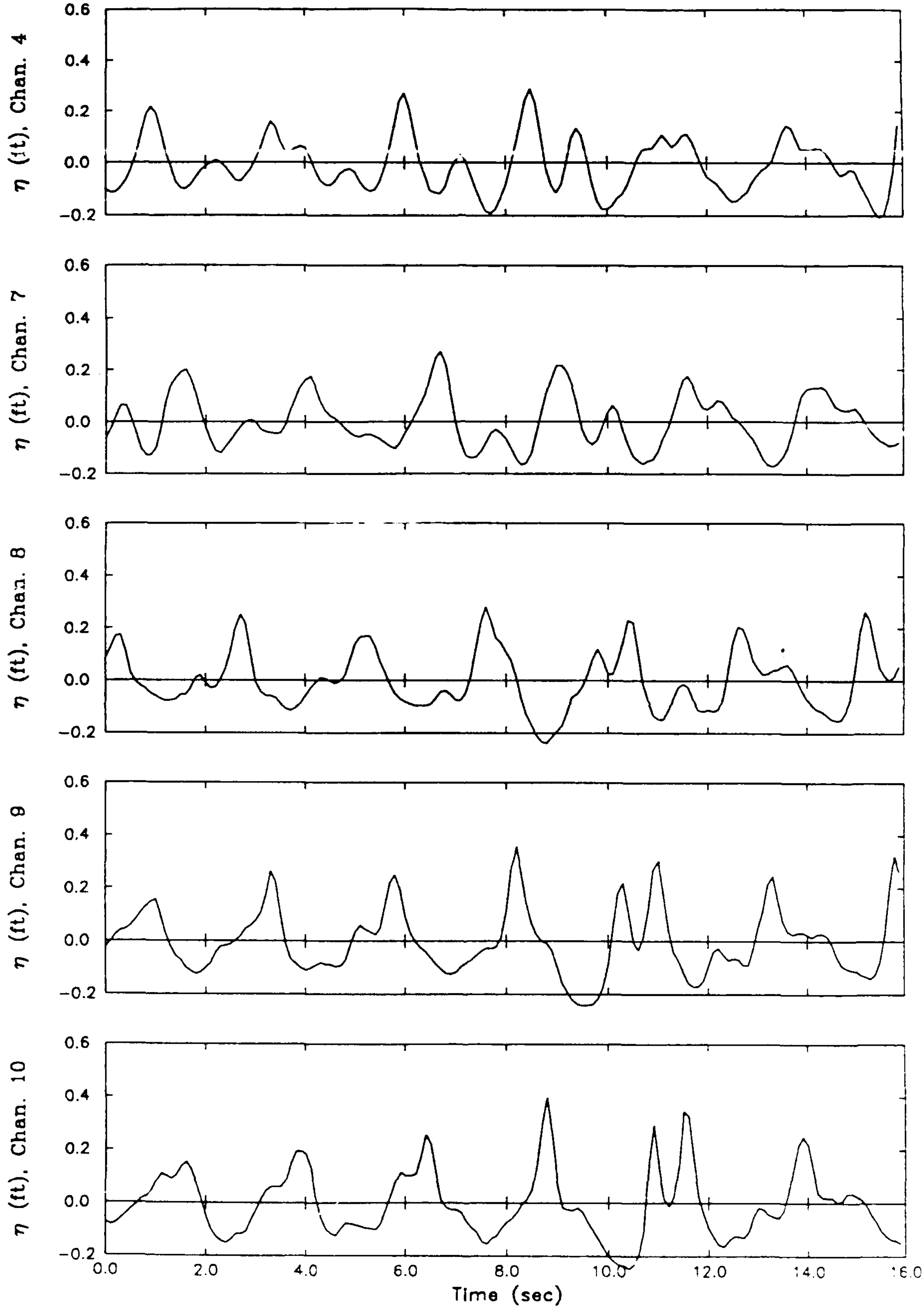
Generalized Beach Model, GBMD6503



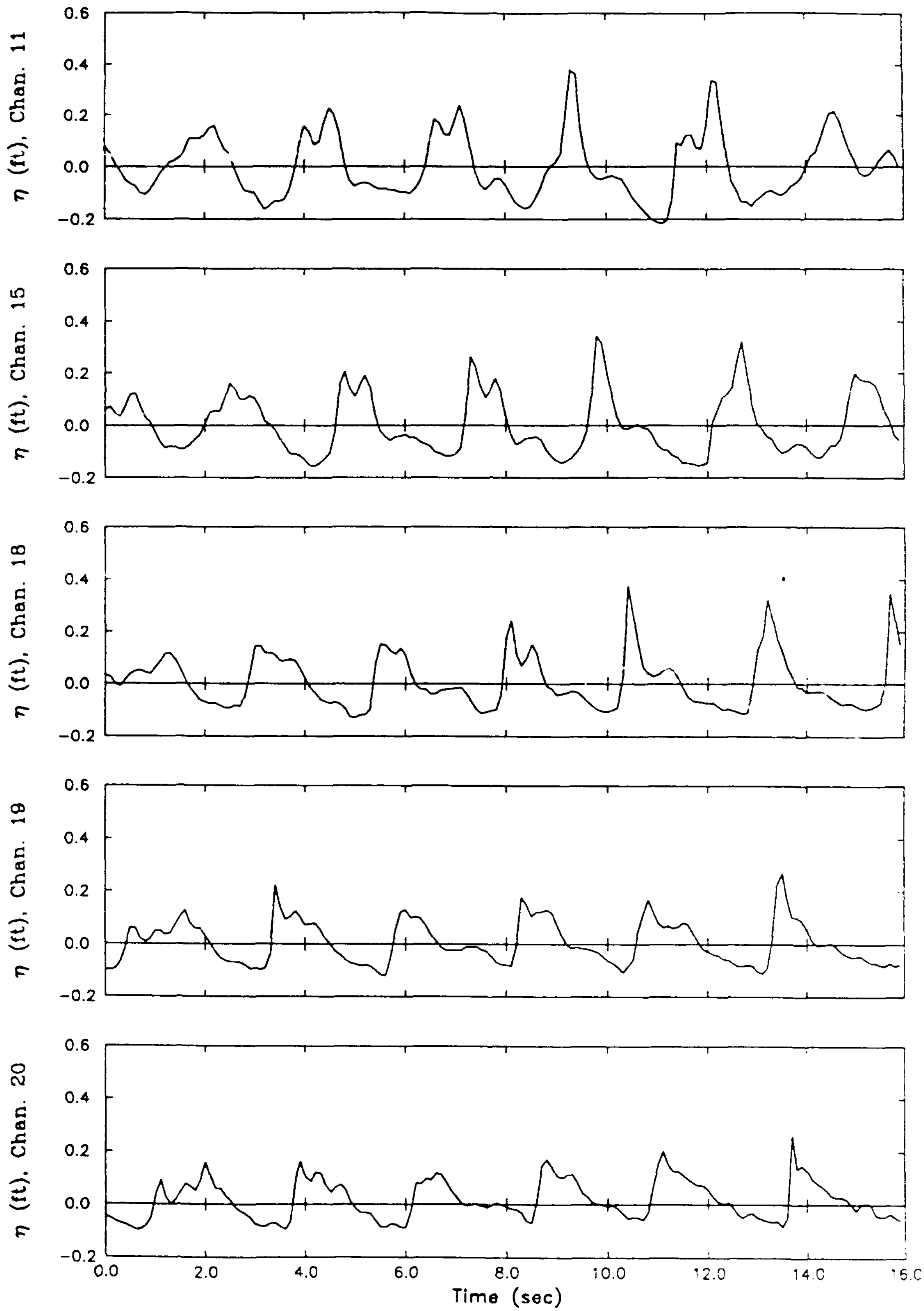
Generalized Beach Model, GBMD6603



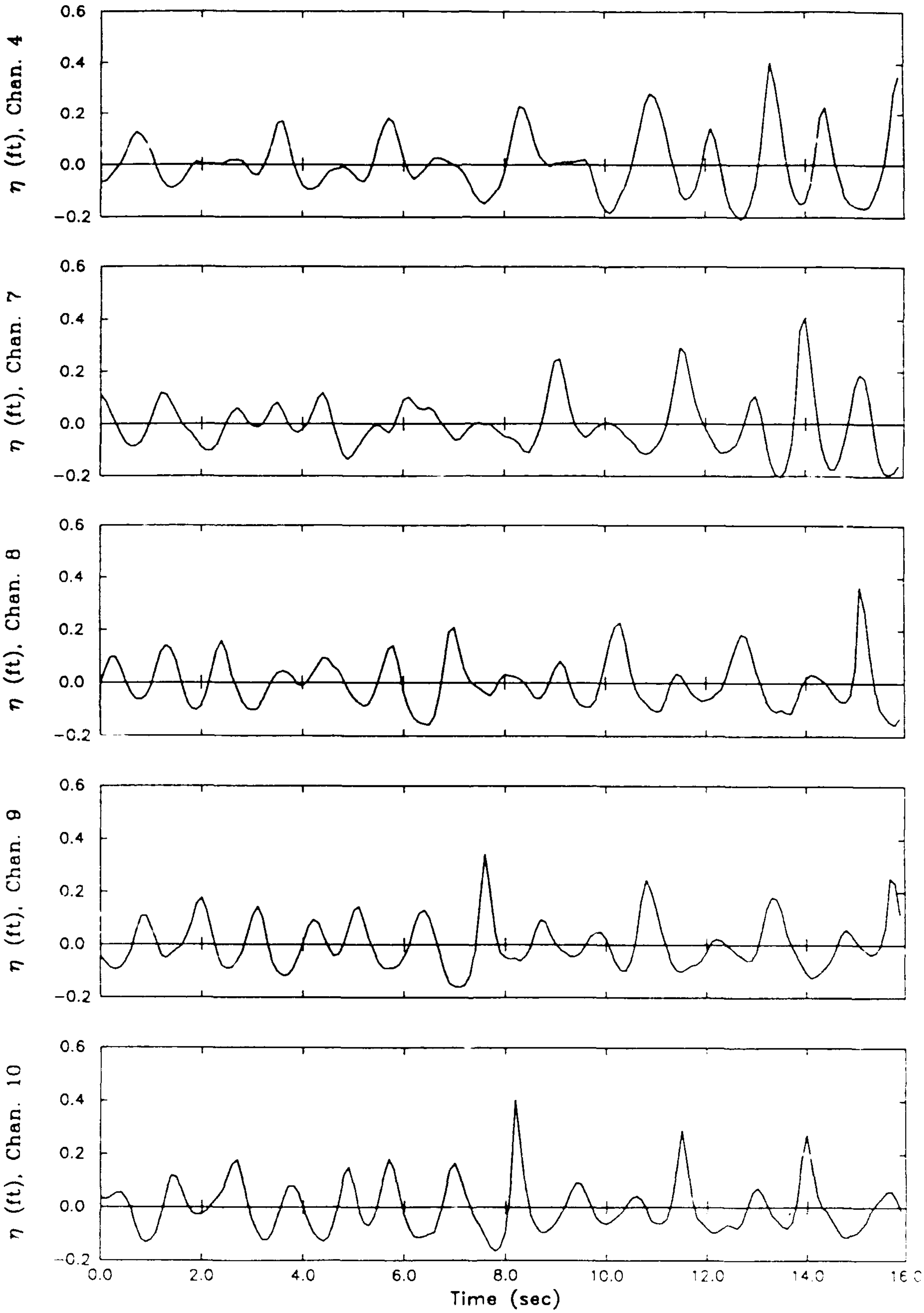
Generalized Beach Model, GBMD6603



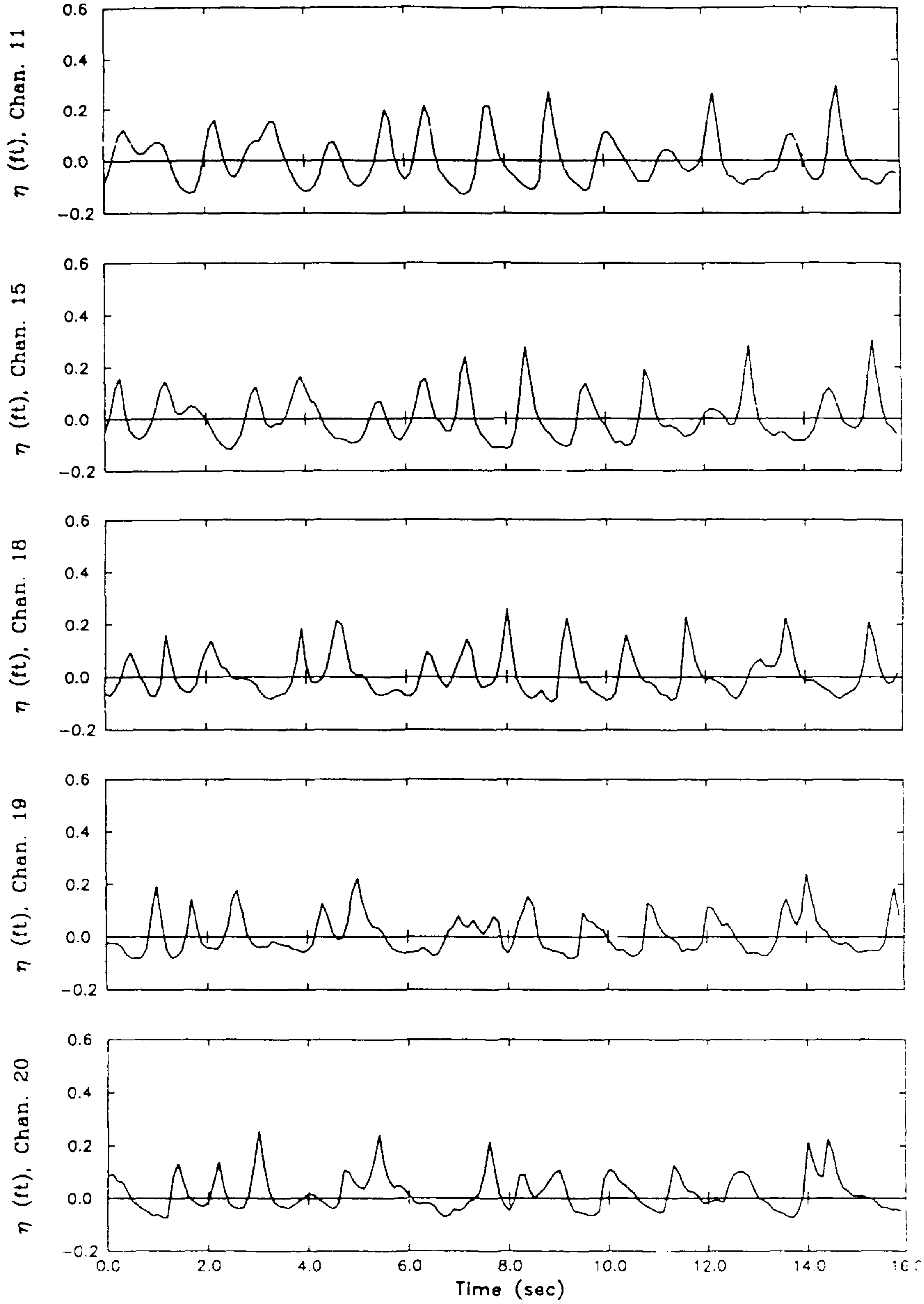
Generalized Beach Model, GBMD6703



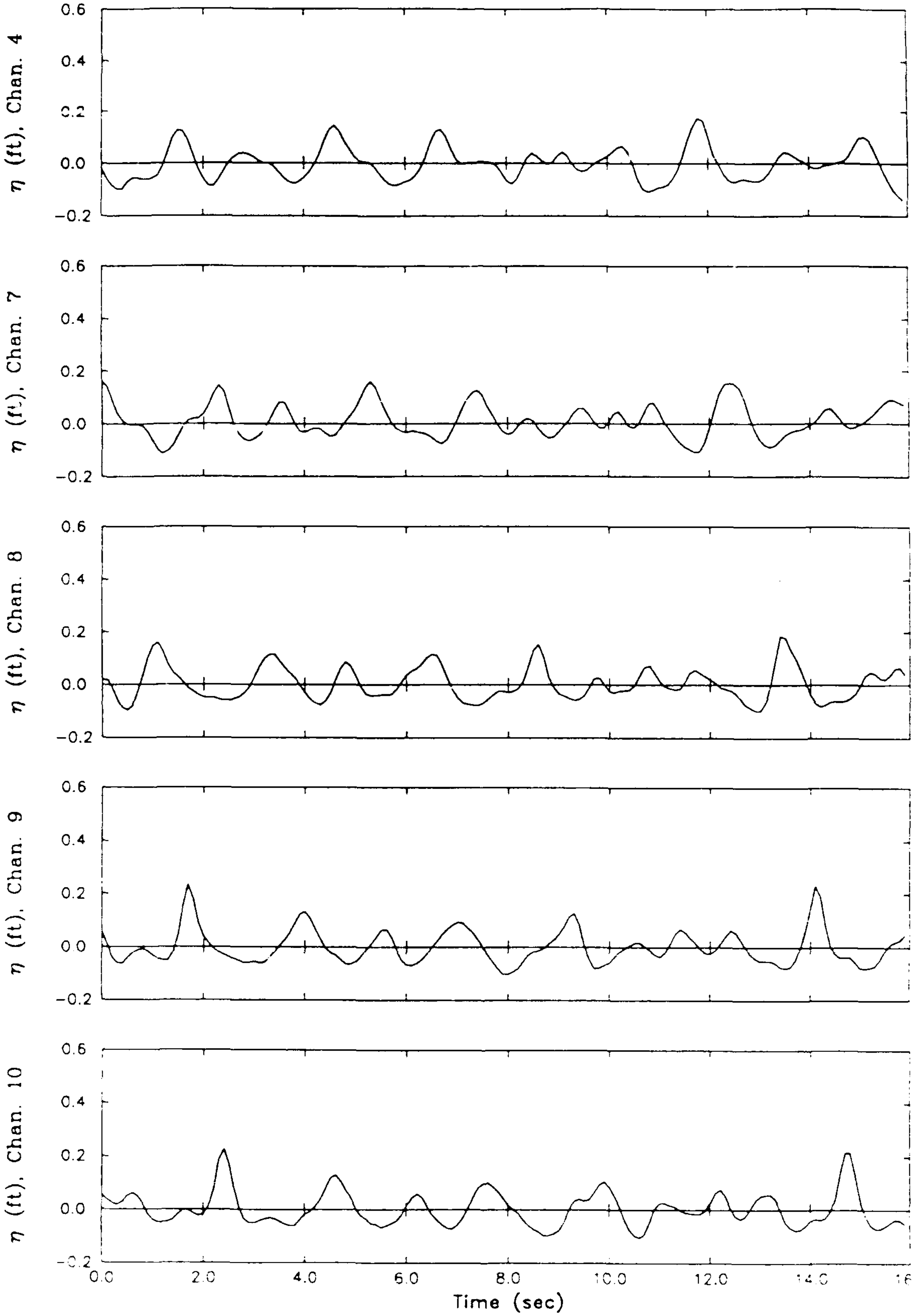
Generalized Beach Model, GBMD6703



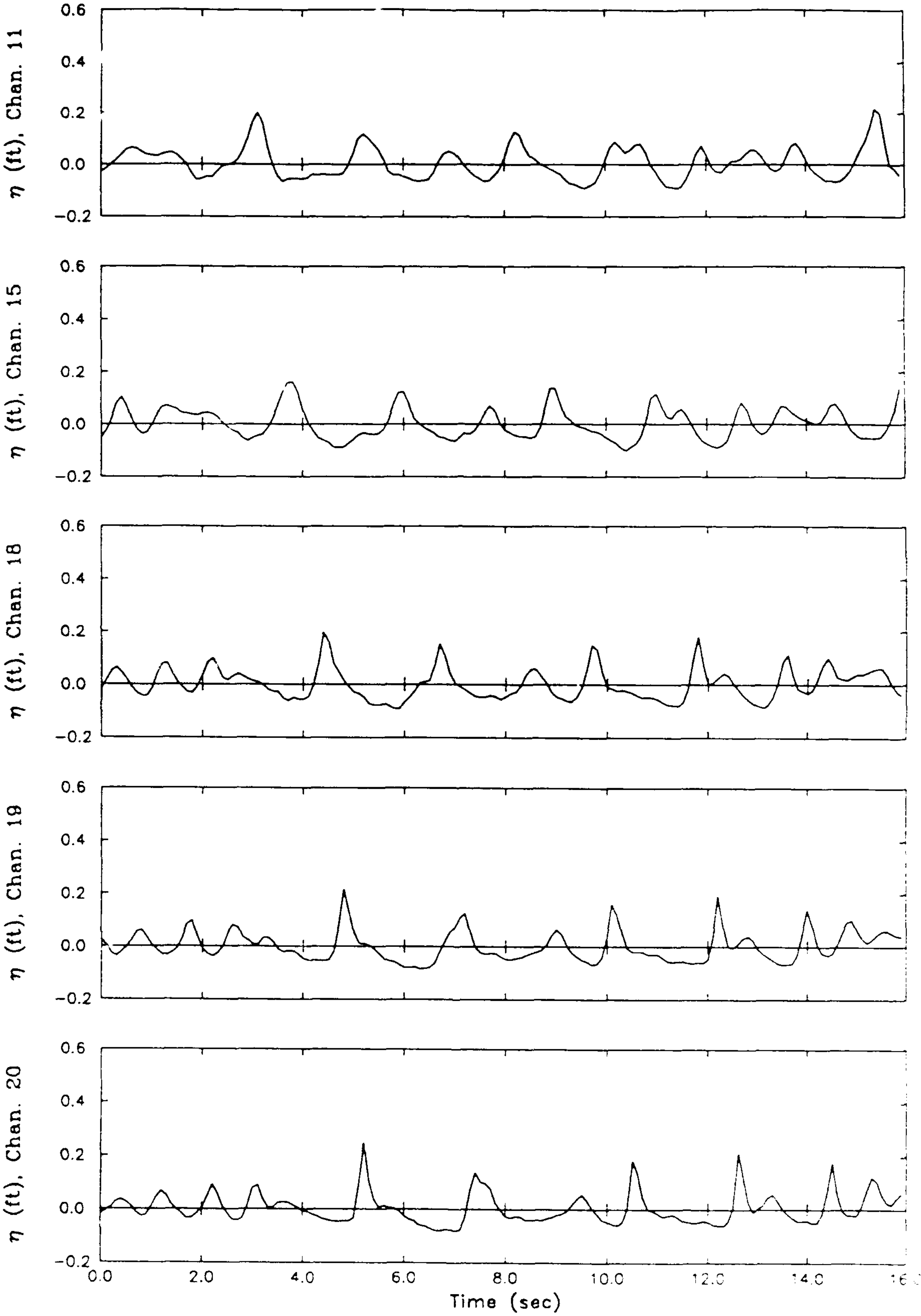
Generalized Beach Model, GBMD6802



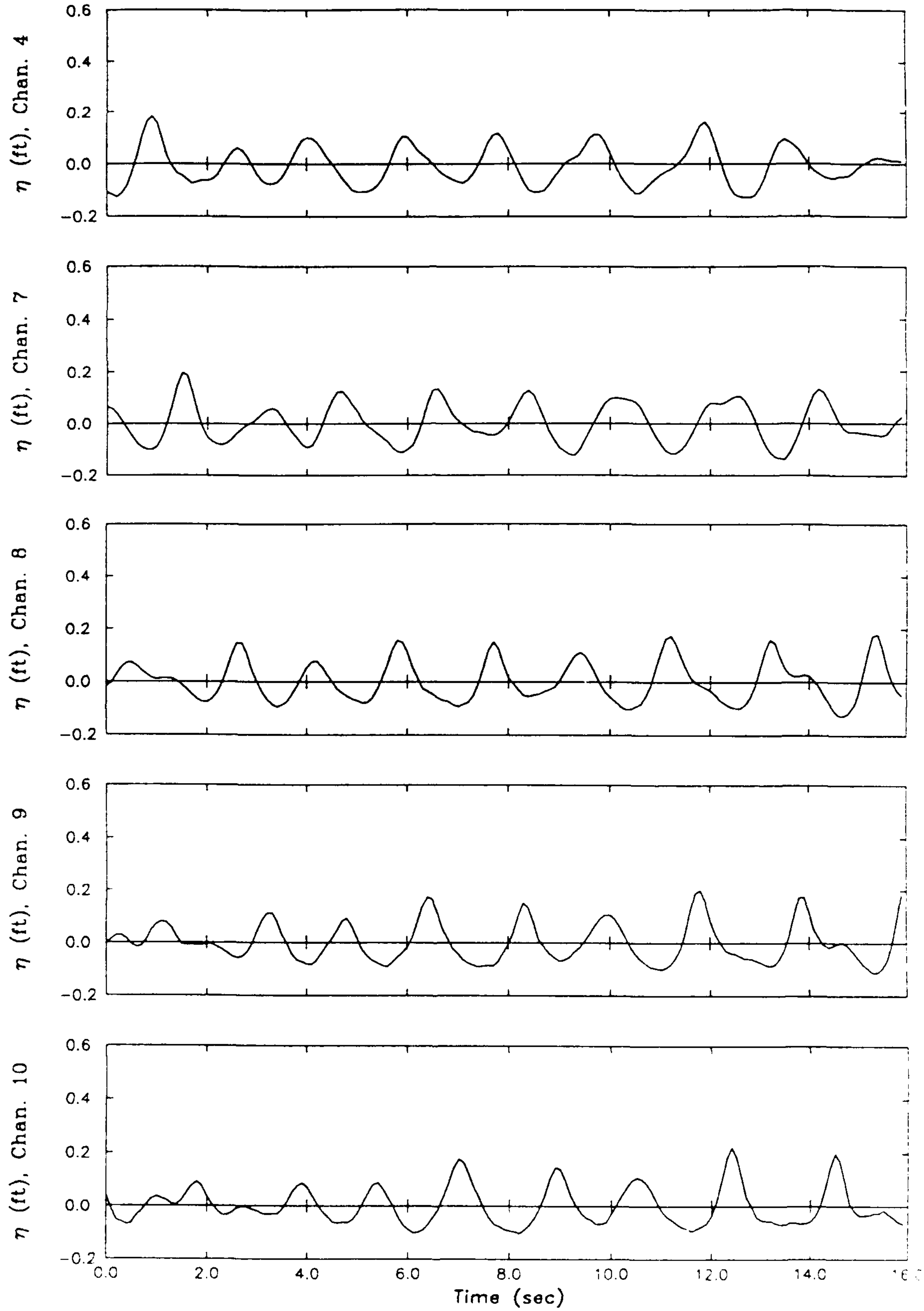
Generalized Beach Model, GBMD6802



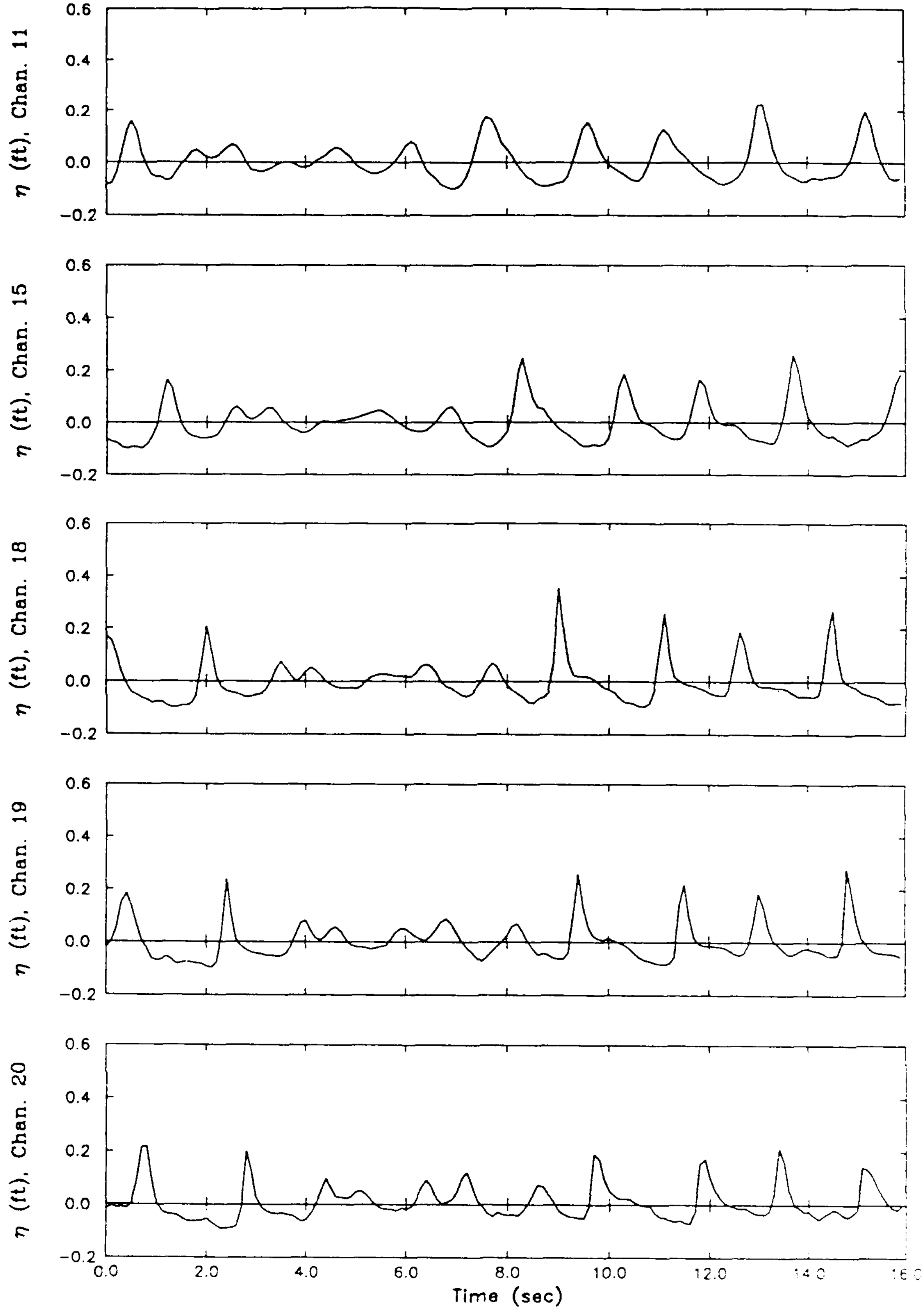
Generalized Beach Model, GBMD7101



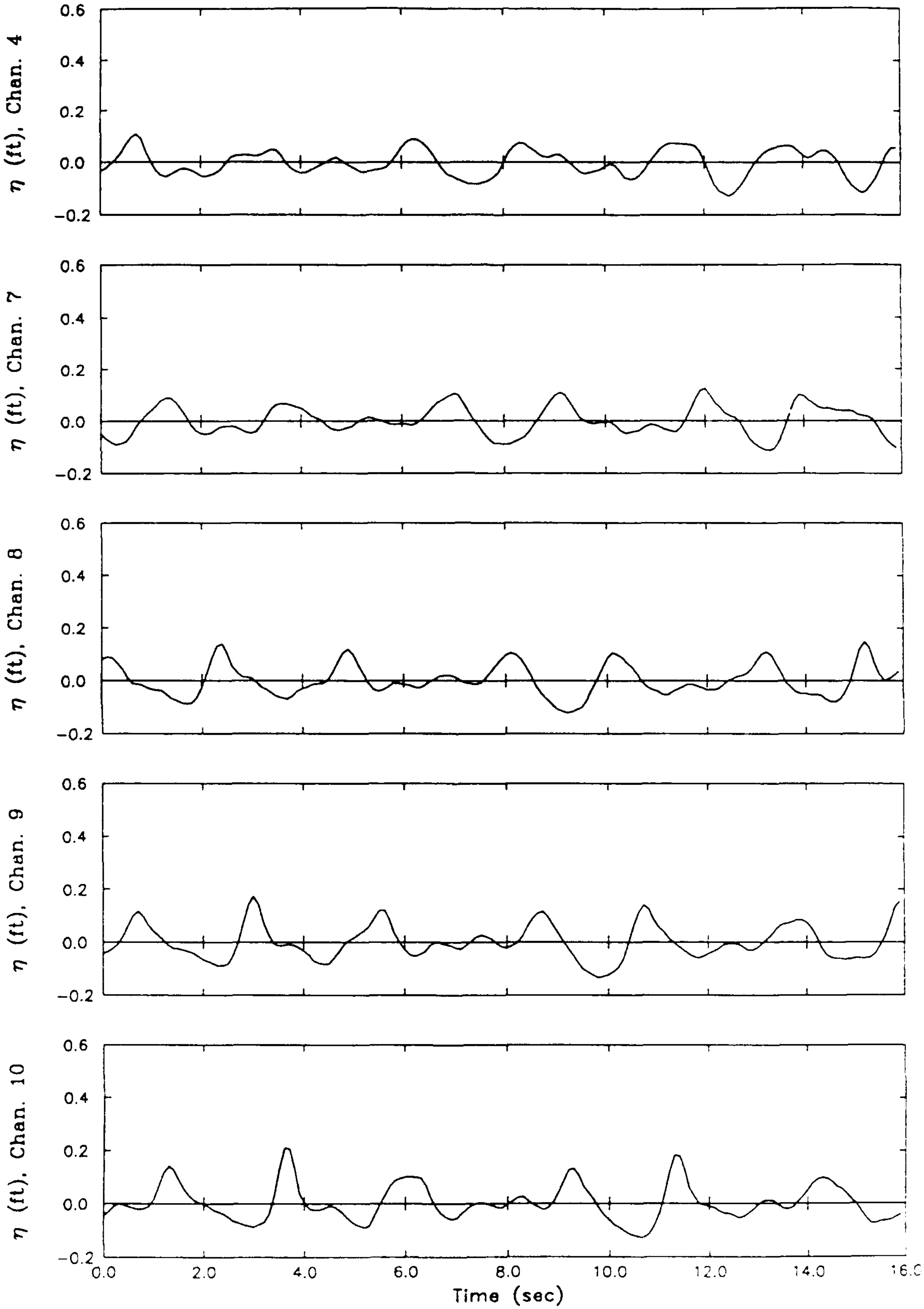
Generalized Beach Model, GBMD7101



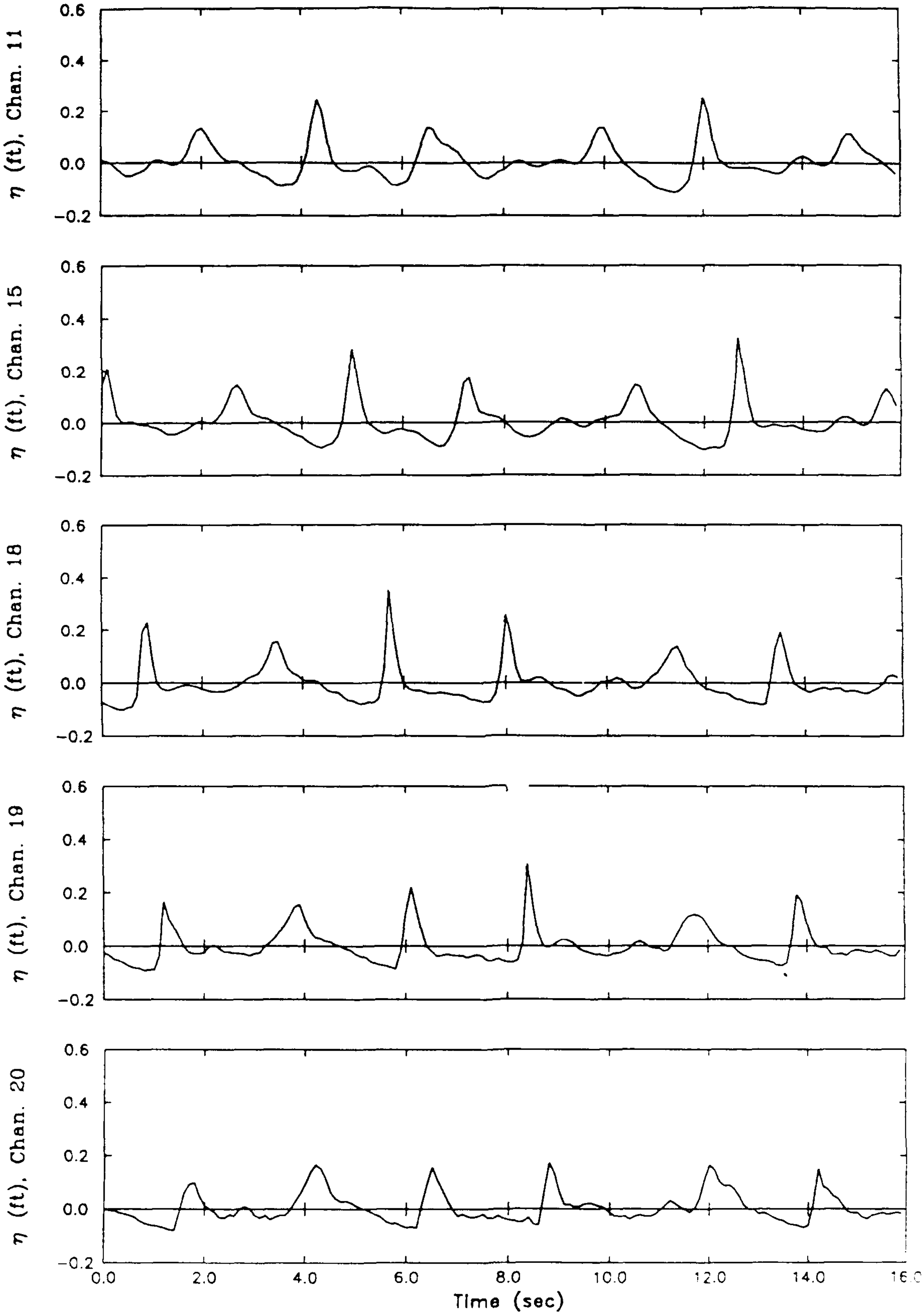
Generalized Beach Model, GBMD7201



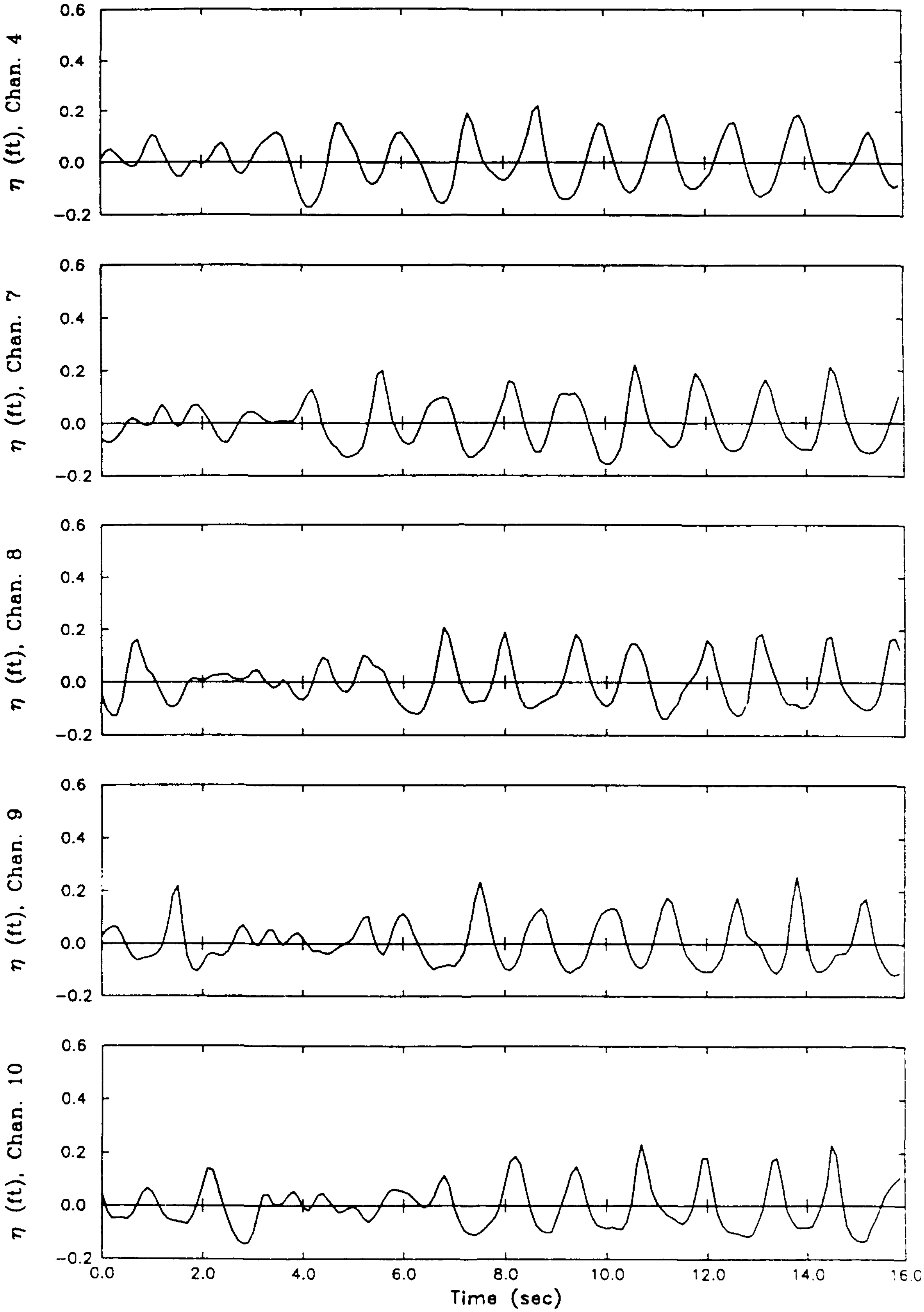
Generalized Beach Model, GBMD7201



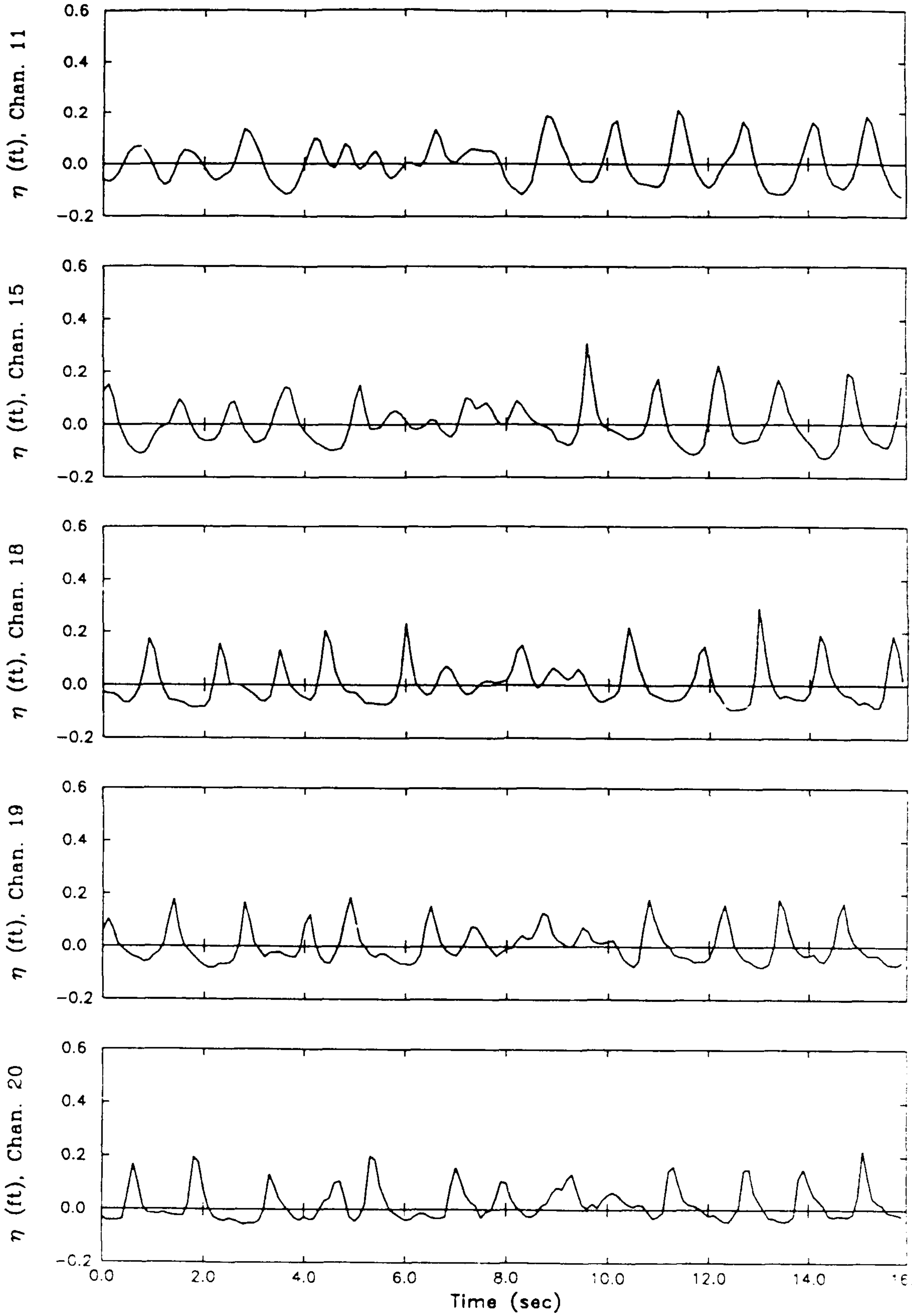
Generalized Beach Model, GBMD7301



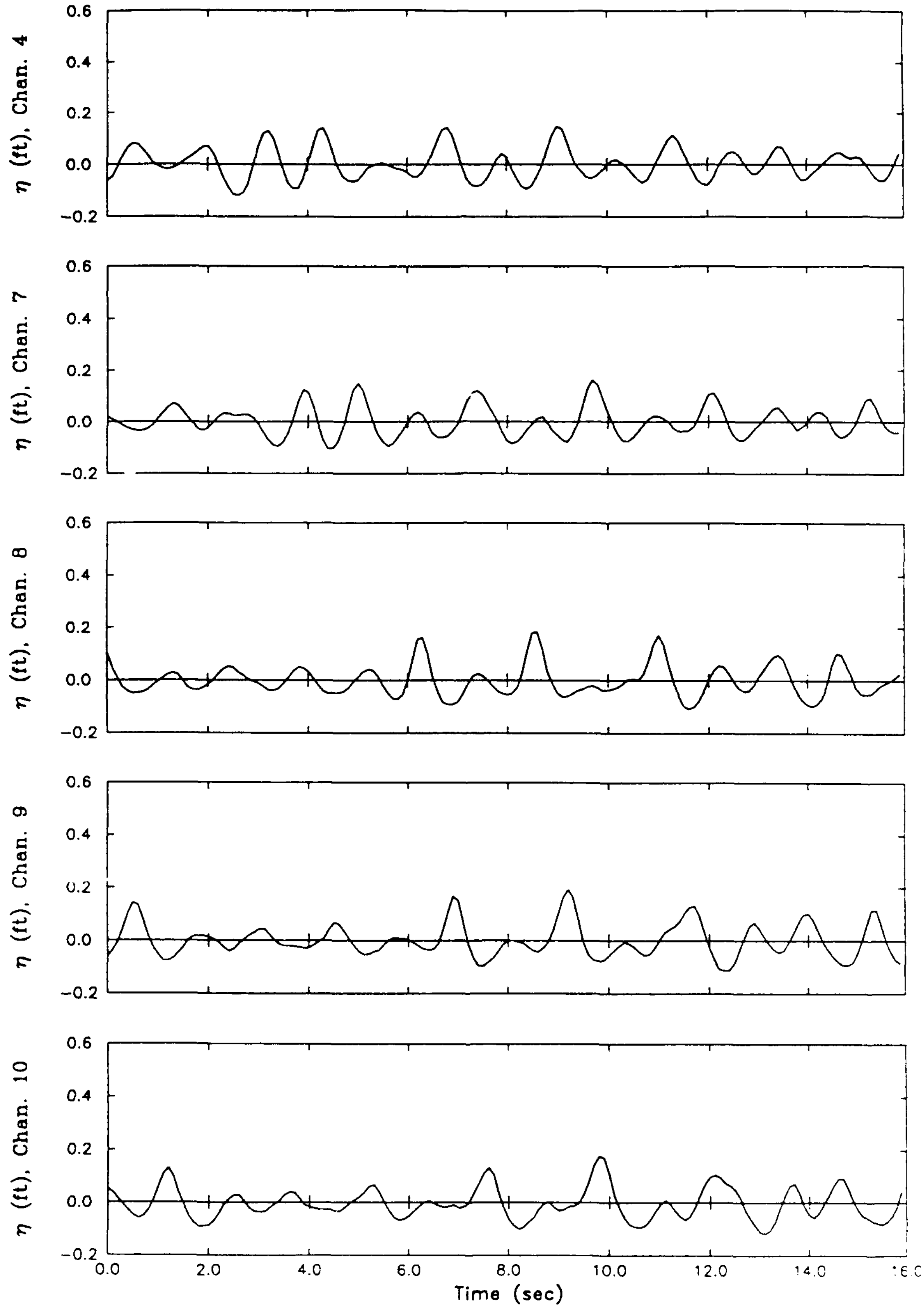
Generalized Beach Model, GBMD7301



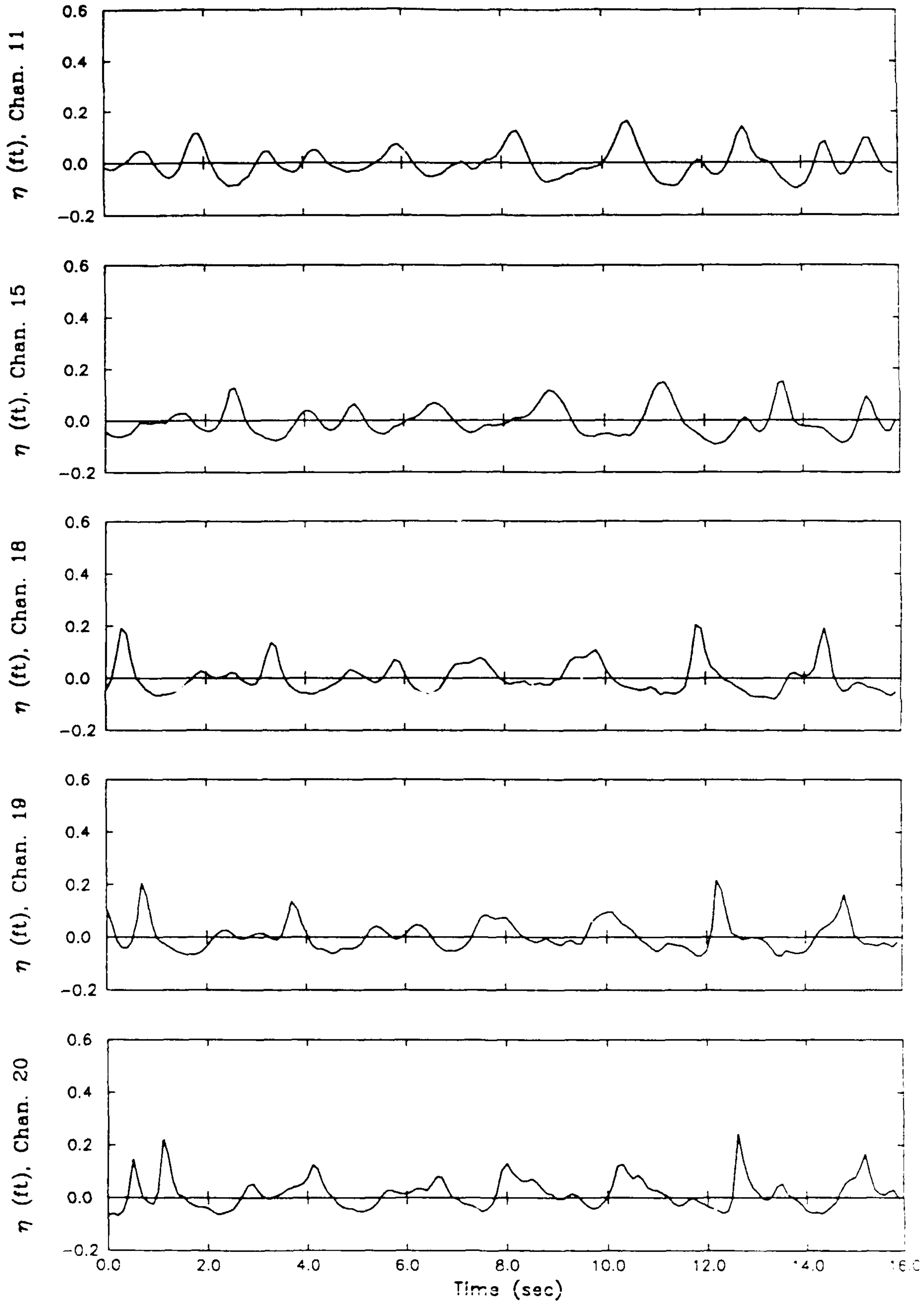
Generalized Beach Model, GBMD8101



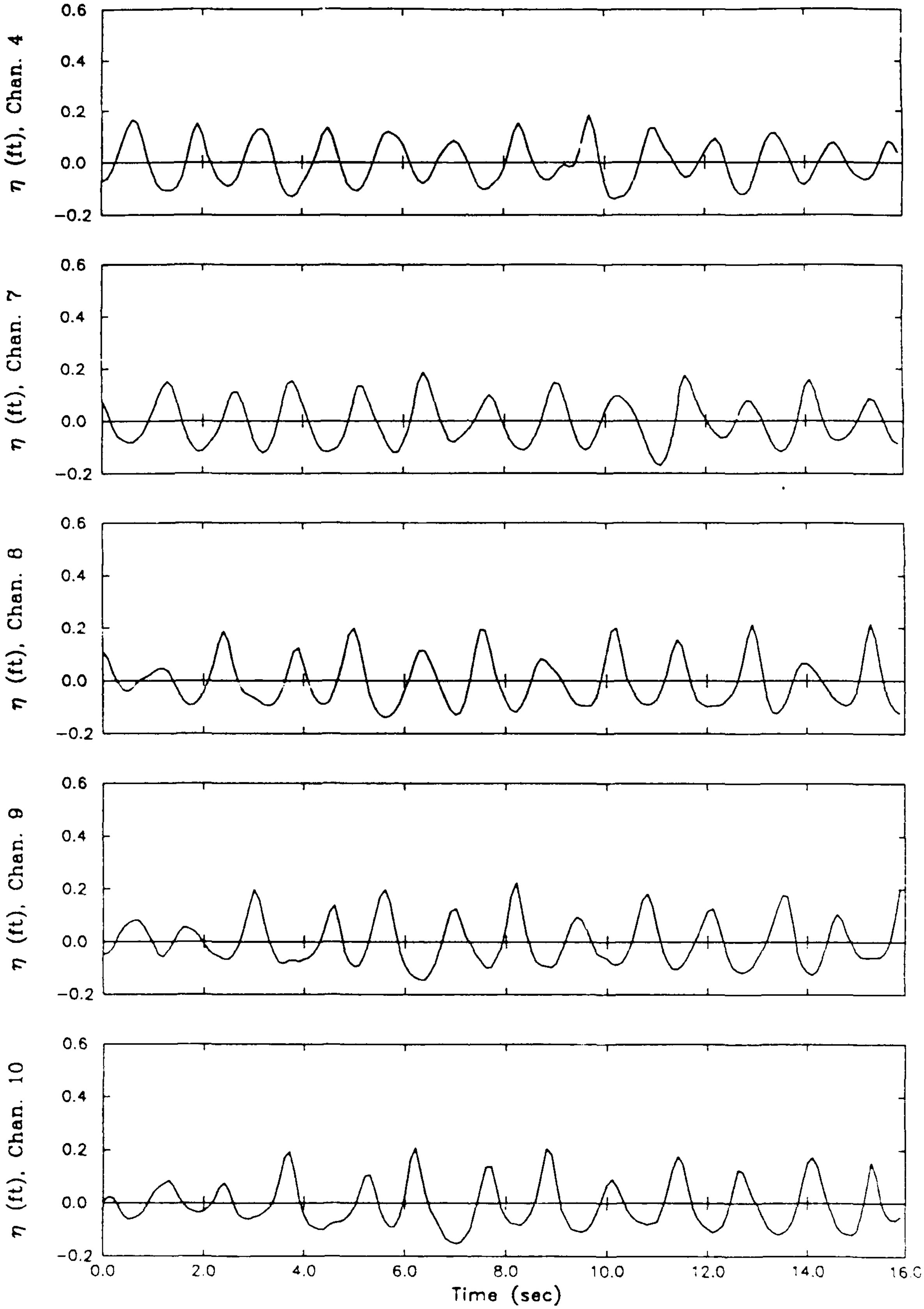
Generalized Beach Model, GBMD8101



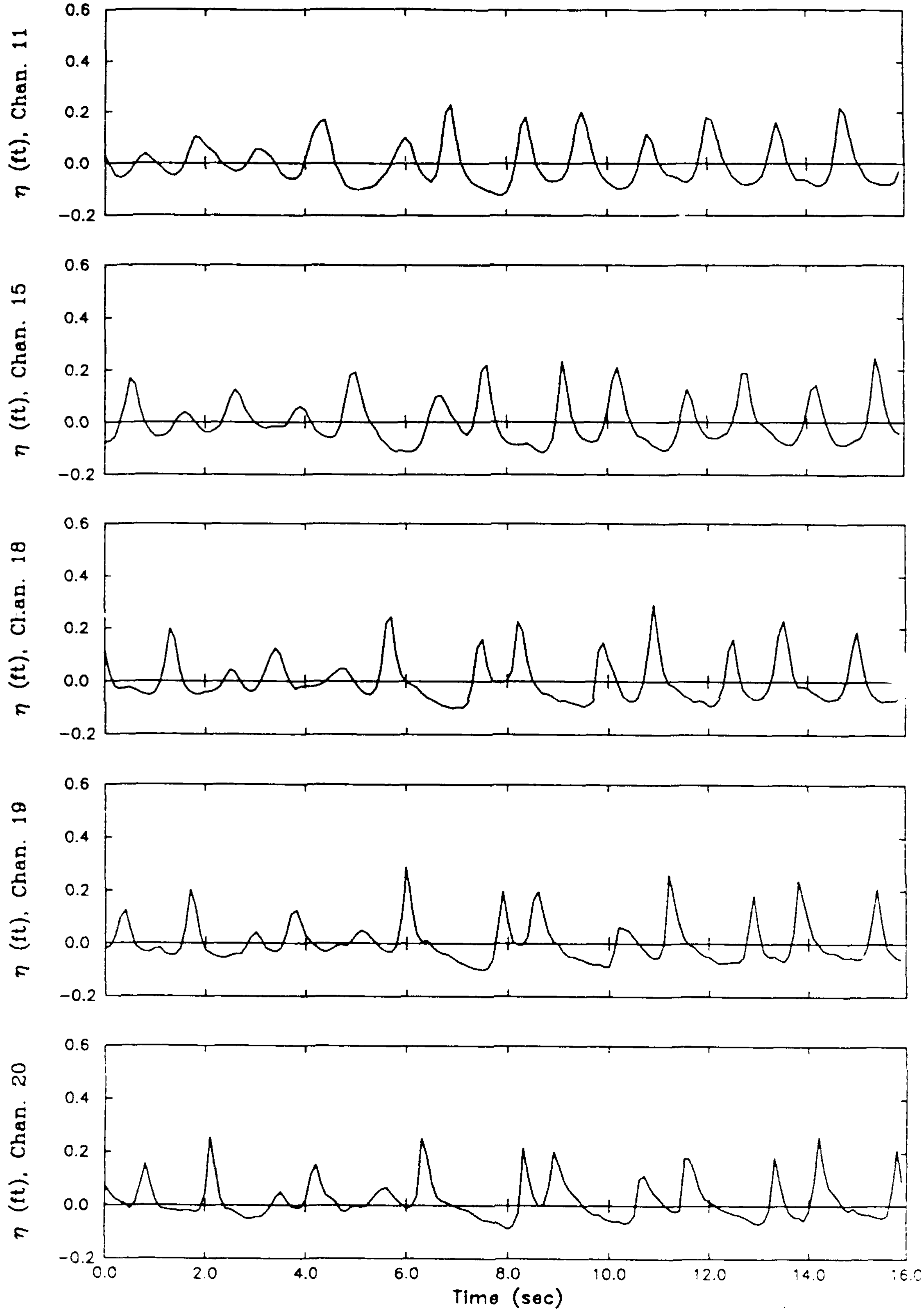
Generalized Beach Model, GBMD8201



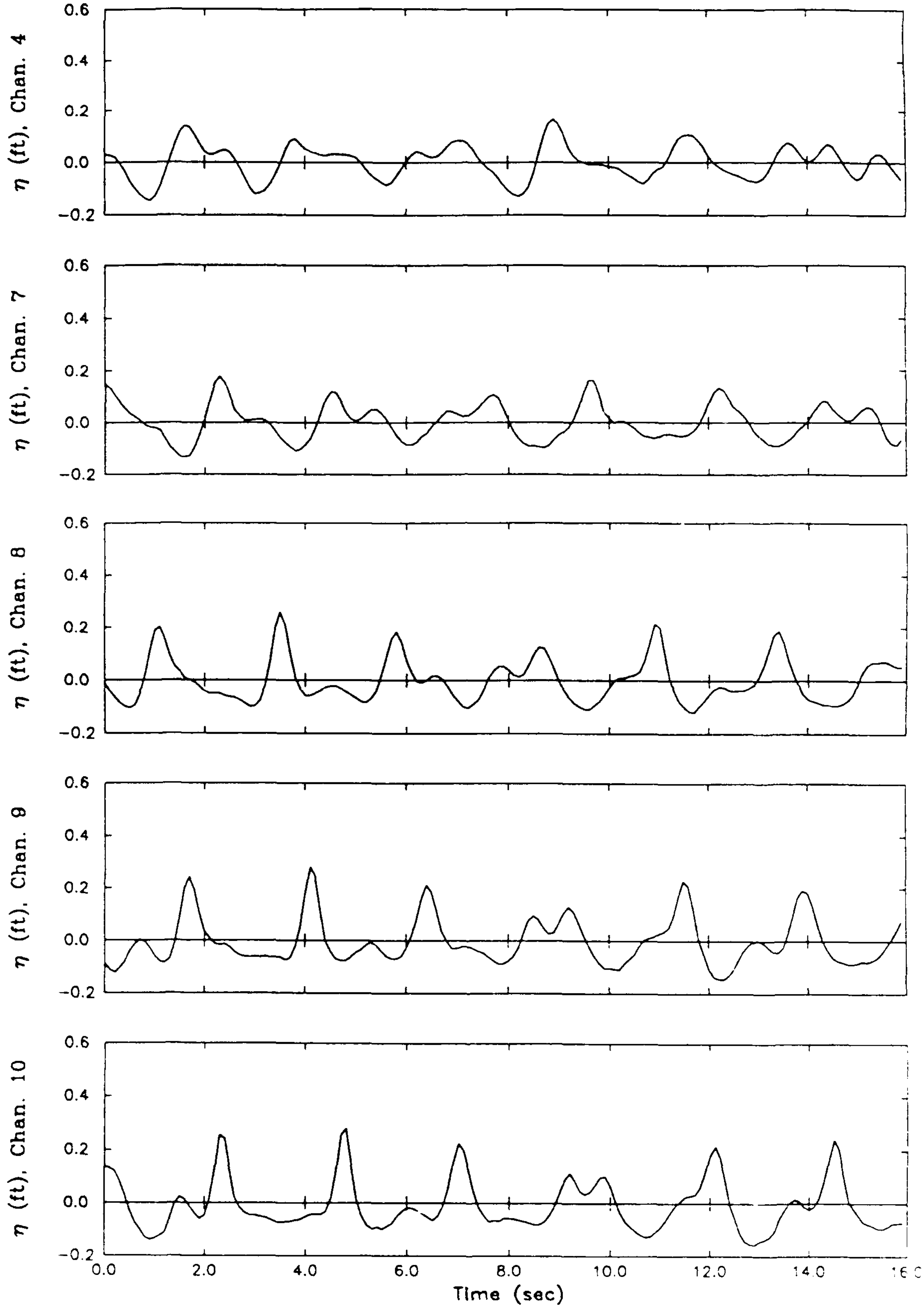
Generalized Beach Model, GBMD8201



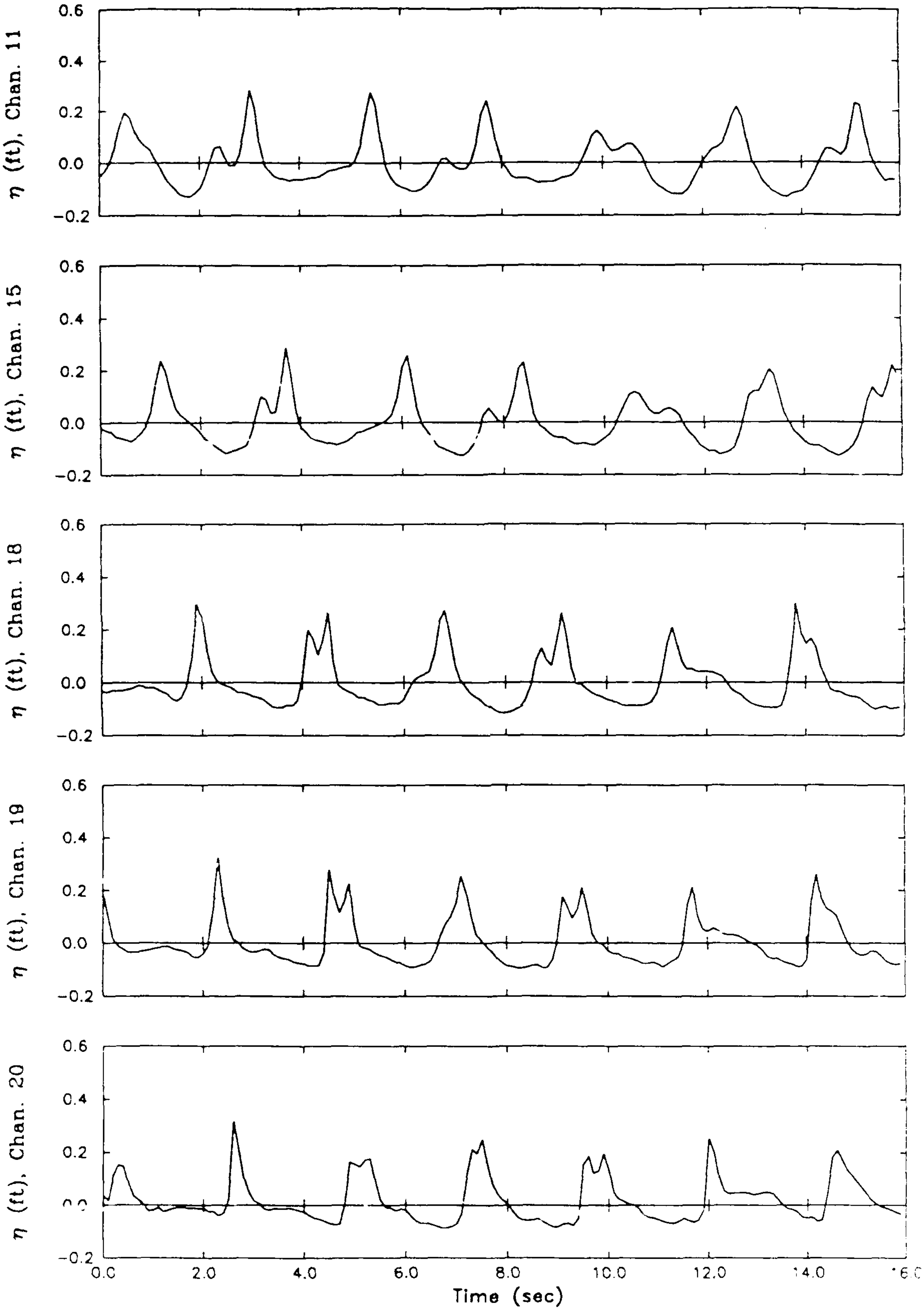
Generalized Beach Model, GBMD8301



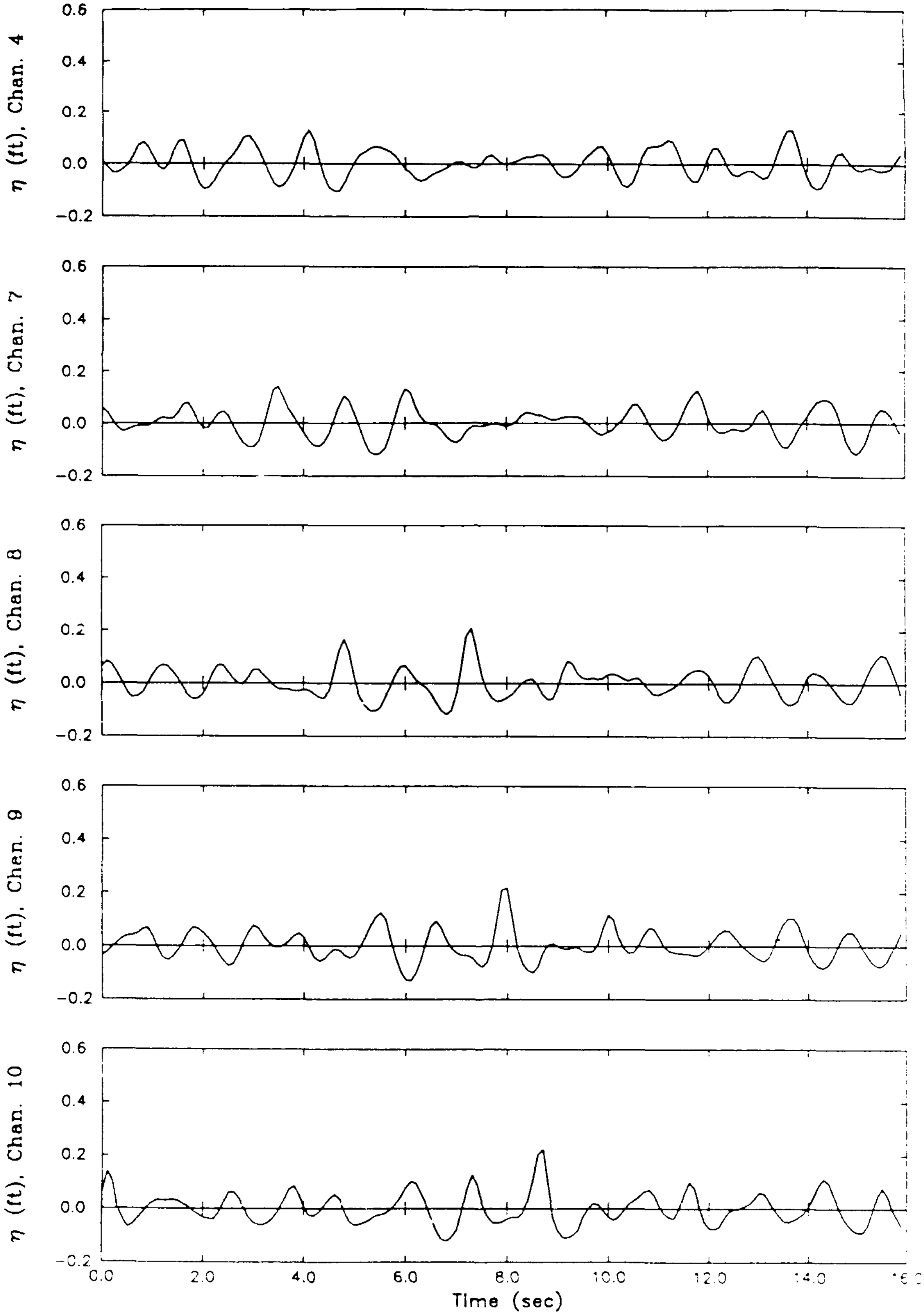
Generalized Beach Model, GBMD8301



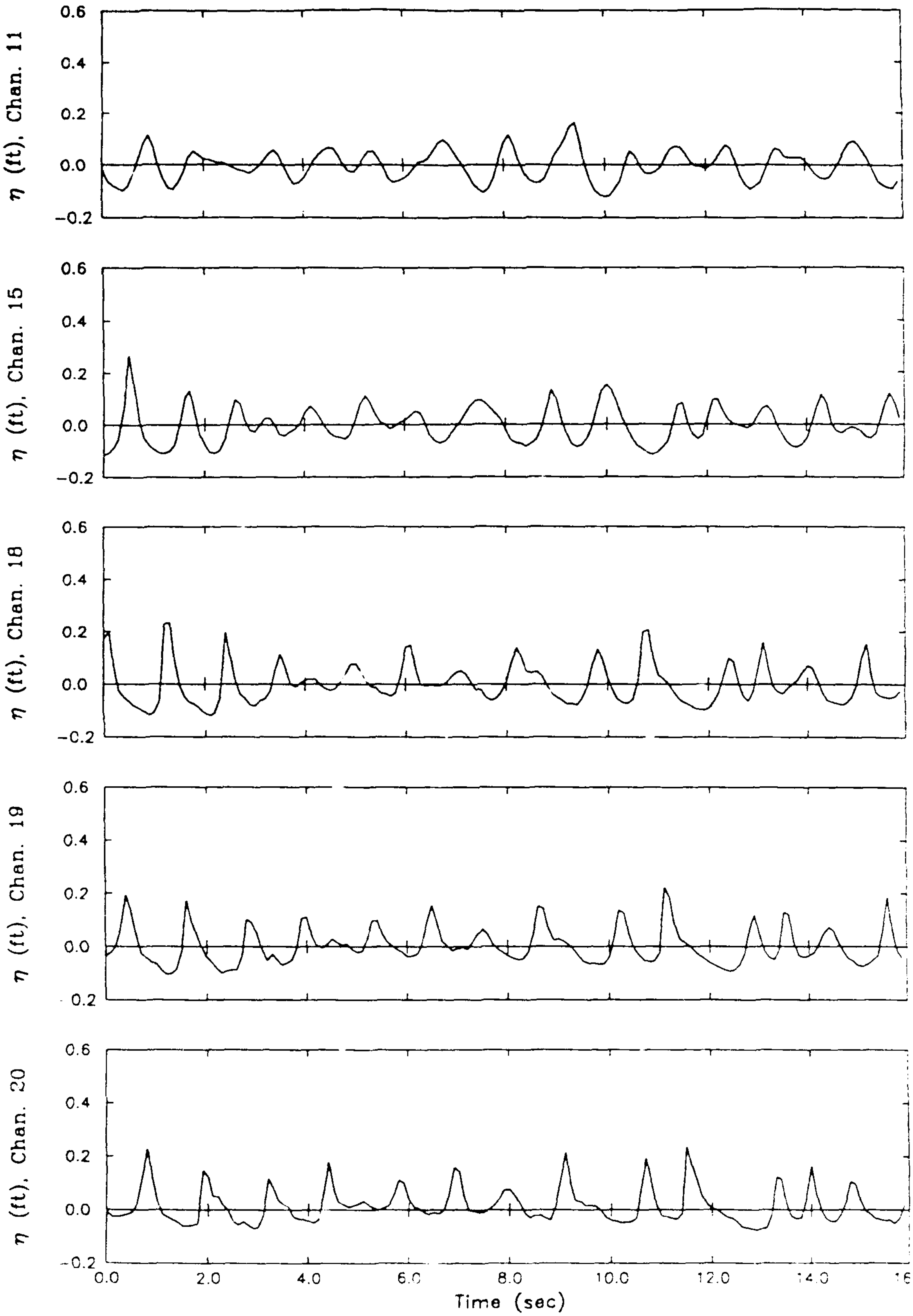
Generalized Beach Model, GBMD8401



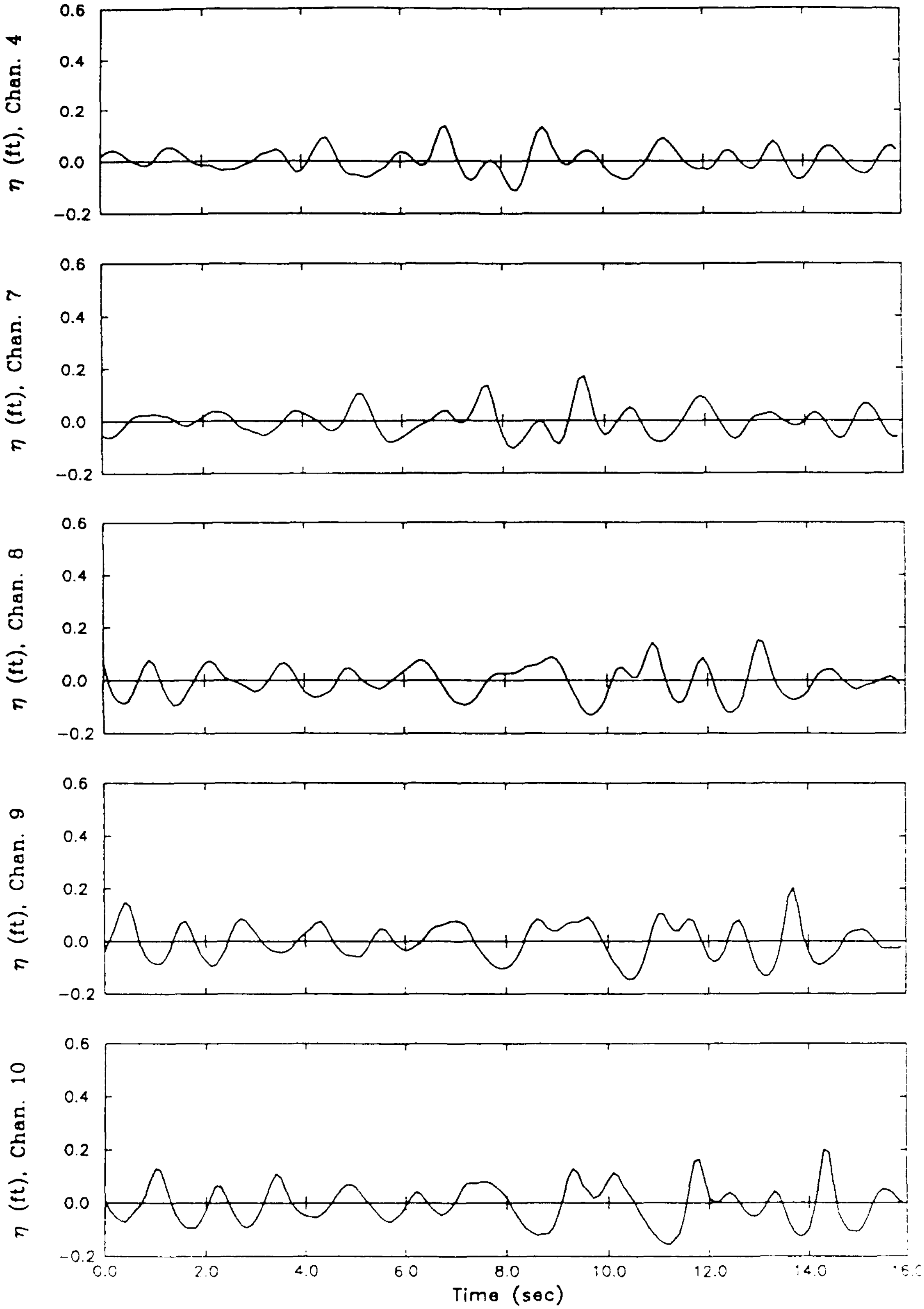
Generalized Beach Model, GBMD8401



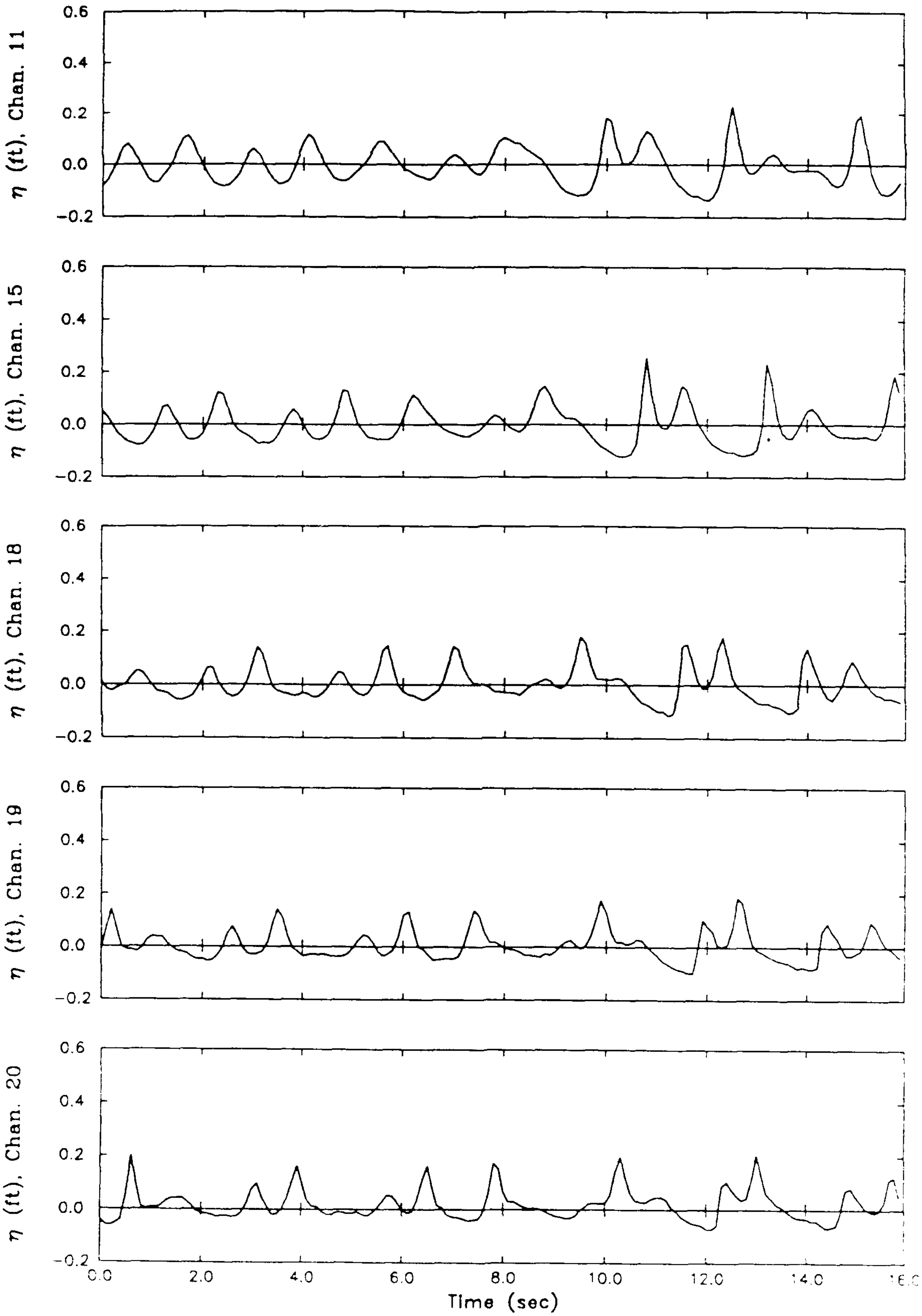
Generalized Beach Model, GBMD8501



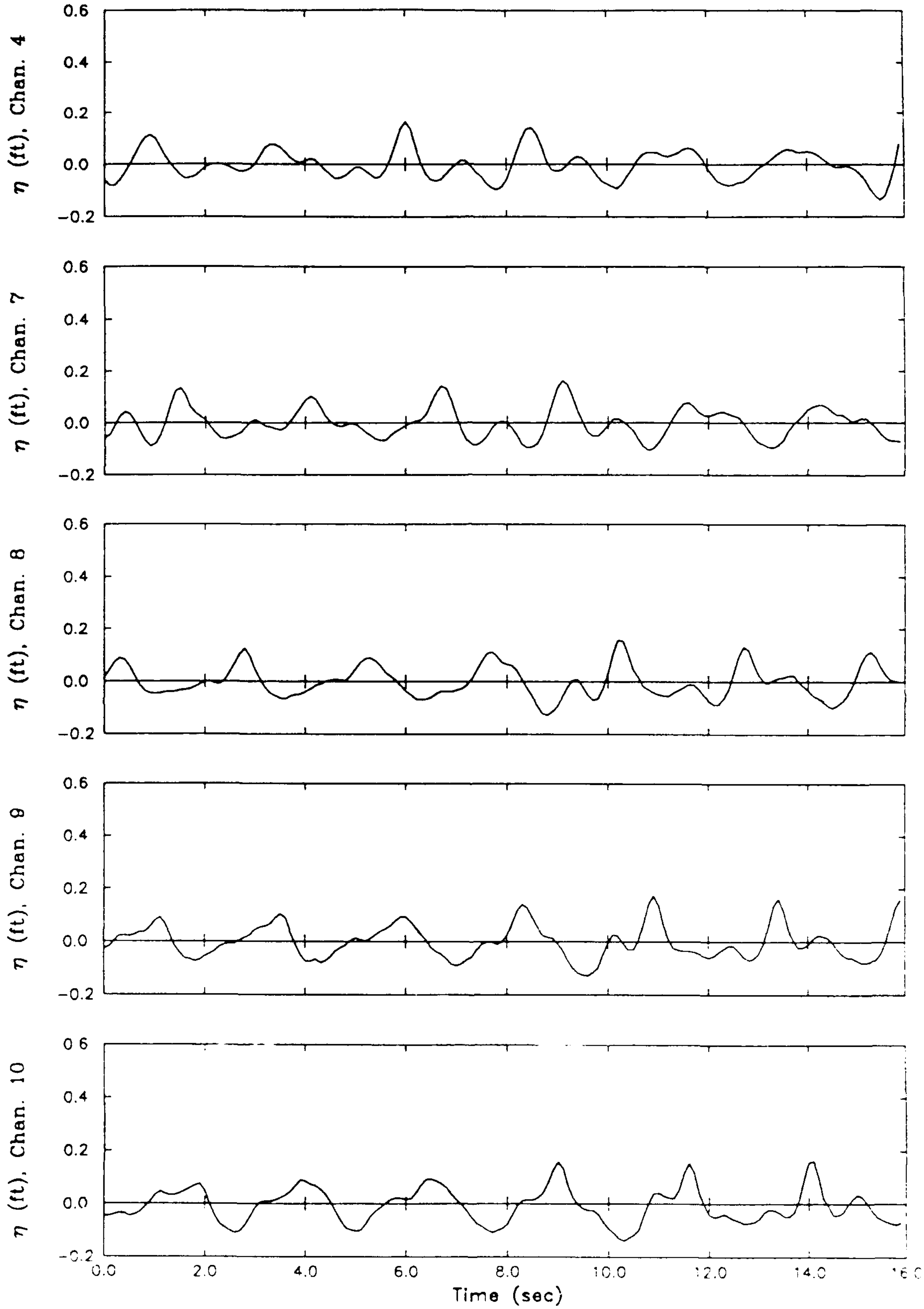
Generalized Beach Model, GBMD8501



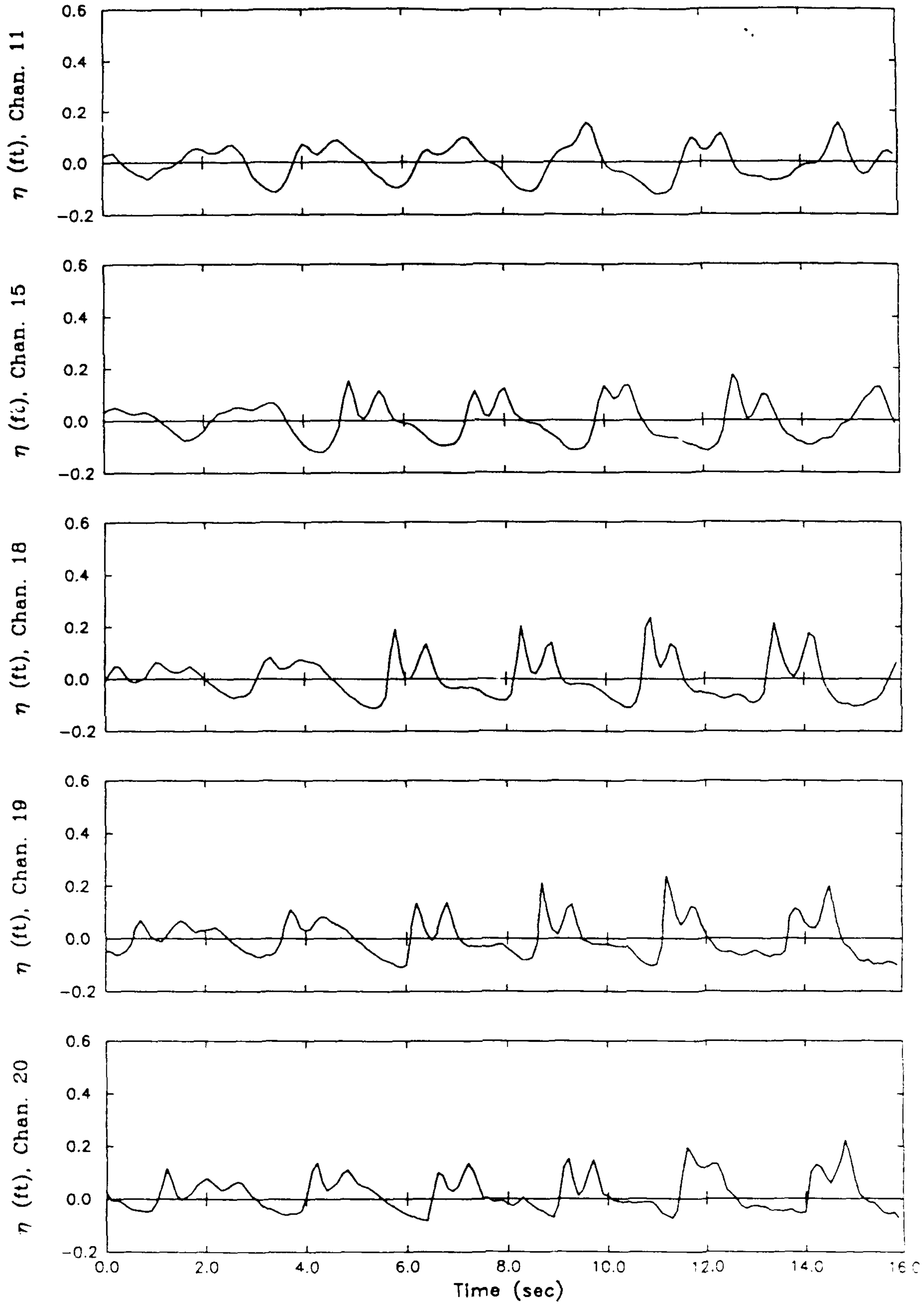
Generalized Beach Model, GBMD8601



Generalized Beach Model, GBMD8601



Generalized Beach Model, GBMD8701



Generalized Beach Model, GBMD8701

APPENDIX E: ZERO-DOWNCROSSING RESULTS

ETABAR, Cm
Generalized Beach Model (GBM)

Test Case	Gage Numbers 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ave. 1-6
Unimodal Series																					
S01	-0.0506	-0.0847	0.0015	-0.0076	0.1170	-0.1329	0.0652	-0.0137	0.1381	-0.1192	0.0457	0.1865	0.1561	-0.0171	0.1356	0.0713	0.1588	0.2627	0.4014	0.5264	-0.026
S09	-0.0546	-0.1643	-0.0433	-0.0908	0.0625	-0.0792	0.0597	0.0037	0.0591	-0.1106	0.0460	0.1234	0.1600	0.0351	0.1030	0.0488	0.1298	0.2359	0.3917	0.5240	-0.061
S13	-0.1003	-0.2112	-0.0094	-0.0860	0.0387	-0.1253	0.0701	-0.0024	0.0869	-0.0716	0.0390	0.1289	0.1579	0.0219	0.1286	0.0753	0.1798	0.1981	0.3603	0.5130	-0.082
S21	-0.0704	-0.1756	0.0247	-0.0573	0.0741	-0.1219	0.0960	0.0357	0.1167	-0.0451	0.0518	0.0920	0.1311	-0.0107	0.1161	0.0789	0.1170	0.2344	0.3734	0.5148	-0.054
S25	-0.1097	-0.2643	0.0241	-0.0799	0.0143	-0.0579	0.0637	-0.1021	0.0893	-0.1375	0.0844	0.1128	0.1643	0.0543	0.1783	0.0991	-0.0098	0.2545	0.3889	0.4987	-0.078
S33	-0.0765	-0.1350	-0.0546	-0.0433	0.0424	-0.1113	0.0893	-0.0735	0.1164	-0.1247	0.0177	0.0817	0.1308	-0.0012	0.0978	0.0369	0.1954	0.1929	0.3267	0.4810	-0.063
S37	0.1908	-0.0347	0.0073	0.1049	0.1289	0.0960	0.0863	0.0314	0.0527	0.0317	0.0320	0.0671	0.1338	0.1408	0.1204	0.0954	0.1996	0.0994	0.2164	0.2627	0.082
S45	0.1692	-0.0469	-0.0805	0.0872	0.1024	0.0695	0.0732	0.0155	0.0259	-0.0634	0.0037	0.0613	0.1283	0.1317	0.1149	0.1027	0.1478	0.1152	0.2121	0.2481	0.050
S49	0.2094	0.1521	-0.0360	0.0564	0.1116	0.1116	0.0597	-0.0009	0.0219	-0.0006	0.0305	0.0988	0.1228	0.1582	0.1935	0.1329	0.1405	0.1558	0.2502	0.2673	0.100
S57	0.1652	0.1542	-0.0210	0.0725	0.1128	0.1085	0.0613	0.0171	0.0402	0.0055	0.0408	0.0722	0.1253	0.1381	0.1710	0.1234	0.1640	0.1198	0.2304	0.2618	0.098
S61	0.1914	0.1442	-0.0366	0.0927	0.1039	0.0561	0.0591	0.0259	0.0445	-0.0009	0.0375	0.1076	0.1289	0.1484	0.1768	0.1183	0.1369	0.1131	0.2121	0.2185	0.091
S69	0.1881	0.1795	-0.0408	0.0759	0.1042	0.0924	0.0631	0.0302	0.0256	-0.0165	0.0140	0.0567	0.1140	0.1509	0.1743	0.1088	0.1515	0.1131	0.2131	0.2557	0.099
Mode Superposition Series																					
D01	0.2996	0.1189	0.0088	0.1052	0.1707	0.0195	0.0430	-0.0018	0.0488	-0.0579	-0.0189	0.0088	0.0750	0.0750	0.0049	0.1271	-0.0418	0.1049	0.1231	0.5273	0.120
D02	0.2173	0.0728	-0.0277	0.0372	0.1856	-0.0094	-0.0027	-0.0192	0.0192	-0.0835	-0.0329	0.0841	0.1966	0.1143	0.0765	0.2222	0.0302	0.3423	0.4346	0.9470	0.079
D03	0.2377	0.0908	-0.0503	0.0698	0.1268	-0.0442	-0.0143	-0.0369	0.0113	-0.0899	0.0018	0.0860	0.1658	0.1576	0.0375	0.2603	0.0661	0.3743	0.4535	0.9510	0.071
D04	0.1186	0.1612	0.0823	0.2146	0.0957	0.0917	0.1890	0.0475	0.2295	0.1134	0.0978	0.0555	0.1795	0.1929	0.1012	0.0125	0.0844	0.2374	0.1945	0.2676	0.127
D05	0.1103	-0.1451	0.0311	0.1247	-0.0305	0.0137	0.0515	-0.0451	0.0521	-0.0067	0.0149	0.0323	0.0966	0.0509	0.0418	0.0738	0.1024	0.0799	0.1347	0.1841	0.017
D06	0.0235	-0.0219	0.0302	-0.1658	0.0607	-0.0527	-0.0512	-0.0564	-0.0485	0.0741	0.0351	0.0168	0.1707	-0.0671	0.0841	0.1241	0.0268	0.2134	0.3481	0.4935	-0.021
D07	0.0329	0.1728	0.0216	0.1399	-0.0027	0.0585	0.0439	0.0137	0.1091	0.0027	0.0994	0.0924	0.1210	0.1189	0.1195	0.1216	0.1155	0.2987	0.2505	0.3950	0.070
D08	0.1177	0.1917	0.0046	0.0719	-0.0186	0.1673	0.0765	-0.0137	0.0917	0.0326	0.0436	0.0384	0.1103	0.0637	0.0707	0.0369	0.1049	0.0265	0.0299	0.0265	0.089
D09	0.0332	-0.0168	0.0792	-0.0920	0.0384	-0.0622	-0.0475	-0.0774	-0.0268	0.0494	0.0192	-0.0399	0.1527	-0.0853	0.0637	0.0856	0.0195	0.1500	0.2582	0.4200	-0.003
Directional Series																					
D13	0.0034	-0.0472	0.0479	-0.2210	0.0469	-0.1009	-0.1177	-0.0369	-0.0521	-0.0247	0.0375	-0.0396	0.1945	-0.0037	0.1564	0.1807	0.0524	0.2487	0.4145	0.5465	-0.045
D16	0.0201	-0.0335	0.0396	-0.1981	0.0533	-0.1143	-0.0783	-0.0908	-0.0503	-0.0341	0.0015	-0.0671	0.1625	-0.0631	0.0847	0.0954	0.0055	0.1375	0.3225	0.4977	-0.038
D19	0.0073	-0.0171	0.0555	-0.1640	0.0408	-0.0463	-0.0896	-0.0466	-0.0341	-0.0296	-0.0058	-0.0643	0.1271	-0.0747	0.0588	0.0701	-0.0049	0.1539	0.3146	0.4795	-0.020
D23	0.0128	-0.0104	0.0567	-0.1271	0.0439	-0.0881	-0.0811	-0.0774	-0.0869	0.0229	0.0085	-0.0591	0.1228	-0.0732	0.0701	0.1472	0.0107	0.2213	0.3374	0.5157	-0.018
D26	-0.0058	-0.0128	0.0802	-0.1865	0.0274	-0.0354	-0.0582	-0.0125	-0.0628	0.0101	0.0009	-0.0262	0.1155	-0.0719	0.0216	0.1103	0.0625	0.1713	0.2874	0.5160	-0.022
D29	-0.0165	-0.1747	0.1192	-0.1567	0.0372	-0.1686	-0.0472	-0.0924	-0.0753	0.0661	-0.0149	-0.0469	0.1798	-0.0972	-0.0314	0.1225	0.0378	0.2173	0.3395	0.5587	-0.060
D33	0.0219	0.0107	0.0354	-0.1177	-0.0073	-0.0792	-0.0655	-0.0768	-0.0418	0.0299	0.0475	0.0454	0.2396	0.0155	0.1042	0.1439	0.0183	0.2676	0.3904	0.5660	-0.022
D36	0.0485	-0.0604	0.0506	-0.2103	-0.0113	-0.0786	-0.0652	-0.1045	-0.0988	0.0064	0.0283	-0.0293	0.2124	-0.0323	0.0902	0.1615	-0.0232	0.2441	0.3828	0.5243	-0.043
D39	0.0732	0.0524	0.0853	-0.1387	0.0189	-0.0893	-0.0204	-0.0320	-0.0451	0.0378	0.0384	-0.0241	0.1814	-0.0884	0.0588	0.1274	0.0131	0.1990	0.3545	0.5913	0.000
D43	0.0396	-0.0037	0.0293	-0.1372	-0.0268	-0.0201	-0.0546	-0.0622	-0.0914	-0.0110	-0.0018	-0.0457	0.1439	-0.1070	0.0826	0.0920	-0.0104	0.1762	0.3112	0.5166	-0.019
D46	0.0351	-0.0491	0.0942	-0.1283	0.0619	-0.0363	-0.0360	-0.0433	-0.0808	-0.0256	-0.0049	-0.0482	0.1131	-0.1228	0.0619	0.0491	-0.0046	0.1039	0.2377	0.4005	-0.003
D49	0.0454	-0.0329	0.0820	-0.1064	0.0579	-0.0655	-0.0329	-0.0643	-0.0613	-0.0201	-0.0021	-0.0655	0.1600	-0.1003	0.0384	0.1049	0.0158	0.0850	0.2192	0.3331	-0.003

ETABAR, Cm

Generalized Beach Model (GBM)

Test Case	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ave. 1-6
											Gage Numbers										
											Directional Series										
D51	0.1448	0.0497	0.0466	0.0253	0.0463	-0.2771	0.0277	-0.0155	0.0381	-0.0043	0.0027	0.2771	0.2201	0.1628	0.1817	0.1615	0.2417	0.3740	0.4362	0.5529	0.0059
D52	0.1085	0.0134	0.0390	0.0695	-0.0174	-0.2054	-0.0223	-0.0594	-0.0241	-0.0283	-0.0244	0.1963	0.1417	0.1039	0.0917	0.0512	0.1695	0.2975	0.3469	0.4691	0.0013
D53	0.1192	0.0948	0.0878	0.1533	-0.0143	-0.2344	0.0171	0.0088	0.0067	-0.0070	-0.0027	0.2374	0.1414	0.1024	0.0765	0.0668	0.1698	0.2755	0.3249	0.4526	0.0344
D61	0.0168	0.1289	-0.0610	-0.0930	0.2377	0.1747	0.2082	0.1231	0.0640	0.1216	0.1369	0.2441	0.2067	0.2384	0.2063	0.3069	0.1914	0.4063	0.4660	0.6376	0.0674
D62	-0.0216	0.0165	-0.1003	-0.1658	0.2621	0.0674	0.1612	0.0177	-0.0003	0.0280	0.1113	0.1335	0.1460	0.1490	0.1375	0.1780	0.0335	0.2673	0.3618	0.5517	0.0097
D63	0.0067	0.0482	-0.0713	-0.1551	0.2463	0.1414	0.1387	-0.0171	-0.0253	0.0030	0.1317	0.1606	0.1628	0.1832	0.1646	0.2283	0.0052	0.3197	0.4200	0.6111	0.0360
D64	0.0168	0.0744	-0.1271	-0.1853	0.2579	0.1106	0.1512	-0.0335	-0.0274	0.0475	0.1143	0.1643	0.1460	0.1716	0.1984	0.1859	-0.0171	0.2801	0.3831	0.5569	0.0245
D65	-0.0027	0.0454	-0.0808	-0.1167	0.2533	-0.0046	0.1088	0.0366	-0.0058	0.0796	0.1170	0.1786	0.1923	0.1832	0.1430	0.2432	0.0802	0.2786	0.3566	0.5736	0.0156
D66	-0.0445	0.1859	0.0110	-0.0189	0.2429	0.0561	0.1469	0.1049	0.0287	0.0917	0.1192	0.1899	0.1692	0.1378	0.0936	0.2262	0.0817	0.2338	0.2972	0.5340	0.0721
D67	-0.0792	0.0914	-0.0326	-0.0713	0.2164	0.0335	0.1408	0.0418	0.0424	0.0872	0.1018	0.1969	0.1469	0.1073	0.0924	0.2164	0.0363	0.2487	0.3319	0.5547	0.0264
D68	0.2006	0.2393	0.0783	0.1140	0.1472	-0.0058	-0.0049	0.0128	0.0271	-0.0774	-0.0012	0.0738	0.1856	0.0677	-0.0125	0.1814	0.0296	0.3078	0.3542	0.8492	0.1289
											Non-Breaking Series										
D71	-0.0320	0.0811	-0.0290	-0.1256	0.2060	0.0643	0.1713	0.1207	0.0917	0.1384	0.1161	0.0732	0.0399	0.0625	0.0893	0.1207	-0.0066	0.0616	0.0744	0.2380	0.027
D72	0.0277	0.1192	0.0034	-0.1018	0.1823	0.1003	0.1649	0.1301	0.0966	0.1344	0.1061	0.0600	0.0363	0.0475	0.0692	0.0939	-0.0174	0.0335	0.0640	0.1926	0.054
D73	0.0155	0.0732	0.0064	-0.0354	0.1719	0.0454	0.1686	0.0762	0.0287	0.1539	0.1109	0.0750	0.0506	0.0378	0.0311	0.0878	-0.0037	0.0341	0.0576	0.1856	0.046
D81	0.3764	0.2637	0.0719	0.1881	0.2195	0.0966	0.1085	0.0805	0.2112	-0.0347	0.1637	0.1573	0.1640	0.1436	0.1271	0.1713	0.0204	0.1829	0.1981	0.6340	0.202
D82	0.2661	0.1747	0.0354	0.0933	0.1740	0.0341	0.0689	0.0479	0.0826	-0.0747	0.0076	0.0427	0.1030	0.0689	-0.0201	0.1448	-0.0360	0.1253	0.1503	0.5014	0.129
D83	0.2755	0.1423	0.0268	0.1186	0.1878	0.0061	0.0640	0.0201	0.0704	-0.1430	0.0082	0.0488	0.1039	0.0536	-0.0152	0.1241	-0.0043	0.1457	0.1612	0.5492	0.126
D84	0.2783	0.1798	0.0253	0.1359	0.2094	0.0201	0.0908	0.0555	0.0939	-0.1448	0.0335	0.0521	0.1109	0.0701	0.0143	0.1241	-0.0143	0.1375	0.1216	0.4971	0.141
D85	0.2615	0.2170	0.0451	0.1530	0.2036	-0.0223	0.0838	0.0710	0.1018	-0.0418	-0.0165	0.0043	0.1015	0.0466	-0.0262	0.1228	-0.0241	0.1177	0.1375	0.5285	0.143
D86	0.2271	0.2320	0.0899	0.1420	0.1786	-0.0771	0.0308	0.0415	0.1161	-0.0366	-0.0030	0.0098	0.1052	0.0235	-0.0421	0.1042	-0.0143	0.0936	0.0945	0.4983	0.132
D87	0.2374	0.1561	0.0552	0.0805	0.1929	0.0844	0.0204	-0.0082	0.0454	-0.0680	0.0067	0.0195	0.1082	0.0244	-0.0594	0.0850	-0.0384	0.0893	0.0899	0.5054	0.134

T1/3, Sec
Generalized Beach Model (GBM)

Test Case	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ave. 1-6
Unimodal Series																					
S01	1.851	1.949	1.841	1.745	1.917	2.021	1.800	1.745	1.810	1.861	1.894	2.005	1.919	1.896	1.886	1.896	1.937	1.873	1.970	2.000	1.887
S09	1.935	1.893	1.949	1.901	1.935	1.907	1.885	1.902	1.861	1.878	1.860	1.892	1.876	1.865	1.937	1.947	1.973	1.928	1.885	1.924	1.920
S13	1.840	1.883	1.891	1.997	1.965	2.037	1.988	1.924	1.920	1.880	1.906	1.889	1.853	1.907	1.869	1.950	2.001	2.017	2.064	2.063	1.935
S21	1.858	1.902	1.815	1.960	1.941	2.017	1.959	1.885	1.876	1.901	1.886	1.859	1.863	1.940	1.892	1.828	1.964	1.883	1.894	1.886	1.916
S25	1.976	1.928	1.993	1.873	1.879	1.765	1.889	1.931	1.952	1.953	1.931	1.838	2.028	2.021	1.937	1.973	1.823	1.997	2.063	1.987	1.902
S33	1.887	1.924	1.900	1.940	1.958	2.004	1.911	1.901	1.853	1.849	1.816	1.911	1.850	1.892	1.905	1.923	1.976	1.882	1.907	1.886	1.935
S37	1.152	1.133	1.100	1.120	1.125	1.119	1.104	1.140	1.125	1.126	1.141	1.161	1.165	1.190	1.142	1.146	1.133	1.133	1.150	1.209	1.125
S45	1.129	1.119	1.138	1.128	1.130	1.138	1.124	1.160	1.174	1.175	1.180	1.168	1.174	1.187	1.200	1.162	1.173	1.181	1.175	1.167	1.130
S49	1.135	1.138	1.153	1.158	1.161	1.165	1.156	1.184	1.162	1.159	1.201	1.185	1.203	1.204	1.194	1.180	1.188	1.198	1.224	1.170	1.151
S57	1.127	1.158	1.118	1.131	1.136	1.130	1.143	1.161	1.170	1.156	1.175	1.148	1.164	1.167	1.185	1.183	1.149	1.195	1.199	1.192	1.133
S61	1.147	1.154	1.133	1.128	1.140	1.096	1.137	1.129	1.140	1.136	1.151	1.209	1.172	1.180	1.172	1.177	1.164	1.147	1.161	1.133	1.133
S69	1.145	1.132	1.108	1.136	1.144	1.156	1.142	1.161	1.163	1.179	1.171	1.162	1.199	1.189	1.165	1.162	1.151	1.188	1.157	1.188	1.138
Mode Superposition Series																					
D01	2.046	2.115	2.024	1.997	2.150	2.220	2.014	2.053	2.025	1.935	1.910	2.046	1.953	1.820	1.830	1.994	1.973	1.842	1.824	1.845	2.092
D02	1.670	1.665	1.682	1.637	1.647	1.667	1.570	1.606	1.599	1.614	1.637	1.626	1.610	1.582	1.639	1.654	1.610	1.605	1.645	1.659	1.661
D03	1.697	1.644	1.675	1.607	1.646	1.692	1.588	1.609	1.615	1.626	1.669	1.621	1.594	1.616	1.688	1.673	1.687	1.687	1.724	1.822	1.660
D04	2.093	2.070	2.003	1.930	2.051	2.203	1.950	1.999	2.016	2.008	2.002	2.144	2.028	1.902	2.024	2.058	2.043	2.015	2.018	2.005	2.058
D05	1.589	1.615	1.639	1.601	1.612	1.645	1.584	1.598	1.601	1.603	1.598	1.631	1.611	1.582	1.592	1.604	1.565	1.573	1.646	1.618	1.617
D06	1.743	1.730	1.741	1.676	1.746	1.826	1.701	1.667	1.734	1.729	1.714	.772	1.681	1.680	1.758	1.777	1.708	1.757	1.744	1.800	1.744
D07	2.041	2.083	2.000	1.904	2.079	2.219	1.966	2.036	1.968	2.044	2.027	.059	1.944	1.885	2.016	2.020	1.990	1.992	1.987	2.053	2.054
D08	1.614	1.600	1.640	1.625	1.607	1.679	1.588	1.596	1.586	1.605	1.594	.614	1.622	1.596	1.600	1.623	1.565	1.588	1.602	1.639	1.628
D09	1.880	1.863	1.830	1.799	1.865	1.889	1.787	1.781	1.820	1.847	1.822	1.870	1.792	1.752	1.889	1.900	1.850	1.843	1.887	1.951	1.854
Directional Series																					
D13	1.706	1.697	1.742	1.717	1.698	1.734	1.563	1.678	1.685	1.670	1.695	1.666	1.652	1.652	1.687	1.661	1.722	1.667	1.702	1.721	1.716
D16	1.859	1.831	1.843	1.789	1.813	1.827	1.702	1.732	1.724	1.767	1.762	1.797	1.752	1.787	1.743	1.764	1.839	1.746	1.834	1.765	1.827
D19	1.998	2.054	2.027	1.887	1.953	1.996	1.839	1.978	1.984	1.938	1.906	1.982	2.014	2.061	1.878	1.834	1.937	1.900	1.896	1.916	1.986
D23	1.676	1.684	1.717	1.723	1.737	1.744	1.645	1.690	1.687	1.683	1.687	1.640	1.668	1.687	1.693	1.677	1.704	1.610	1.647	1.687	1.714
D26	1.836	1.846	1.829	1.812	1.839	1.848	1.762	1.800	1.817	1.803	1.756	1.874	1.878	1.798	1.765	1.744	1.834	1.803	1.893	1.874	1.835
D29	1.946	2.016	1.980	1.981	2.051	2.011	1.945	2.002	2.049	2.005	1.998	1.947	1.879	1.961	1.899	1.956	1.988	1.901	1.886	1.920	1.997
D33	1.698	1.687	1.708	1.679	1.663	1.638	1.617	1.665	1.699	1.712	1.696	1.689	1.682	1.707	1.692	1.692	1.627	1.695	1.752	1.810	1.679
D36	1.772	1.794	1.811	1.748	1.733	1.688	1.737	1.802	1.812	1.819	1.771	1.782	1.840	1.888	1.828	1.784	1.777	1.790	1.794	1.814	1.758
D39	1.950	1.954	1.925	1.849	1.873	1.823	1.878	1.961	1.951	2.005	1.963	1.857	1.965	1.986	2.004	1.930	1.909	1.937	1.992	2.015	1.896
D43	1.723	1.725	1.722	1.711	1.715	1.707	1.680	1.687	1.693	1.672	1.669	1.674	1.685	1.631	1.686	1.678	1.684	1.666	1.668	1.621	1.717
D46	1.786	1.845	1.860	1.751	1.792	1.887	1.754	1.749	1.751	1.715	1.756	1.747	1.805	1.814	1.751	1.759	1.812	1.847	1.846	1.833	1.820
D49	1.915	2.032	1.943	1.982	2.023	2.027	1.978	1.942	1.896	1.901	1.877	1.882	1.855	1.834	1.866	1.893	1.910	1.885	1.851	1.885	1.987

T1\3, Sec
Generalized Beach Model (GBM)

Test Case	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ave. 1-6
										Gage Numbers											
										Directional Series											
D51	1.866	1.888	1.828	1.895	1.925	1.990	1.880	1.874	1.854	1.856	1.858	1.837	1.823	1.896	1.890	1.834	1.808	1.800	1.913	2.014	1.899
D52	1.927	1.795	1.812	1.822	1.787	1.929	1.731	1.804	1.766	1.780	1.767	1.767	1.755	1.796	1.747	1.753	1.852	1.688	1.796	1.766	1.845
D53	1.800	1.827	1.829	1.881	1.932	1.880	1.911	1.856	1.850	1.848	1.867	1.782	1.826	1.832	1.855	1.873	1.923	1.810	1.863	1.990	1.858
D61	1.469	1.513	1.488	1.448	1.564	1.743	1.439	1.488	1.533	1.554	1.524	1.711	1.554	1.635	1.558	1.518	1.615	1.573	1.686	1.759	1.537
D62	1.518	1.399	1.433	1.367	1.375	1.616	1.393	1.429	1.438	1.472	1.473	1.523	1.469	1.545	1.531	1.483	1.525	1.587	1.660	1.741	1.451
D63	1.592	1.479	1.490	1.458	1.436	1.410	1.442	1.498	1.630	1.689	1.771	1.639	1.922	1.997	1.934	1.902	1.669	1.943	1.974	1.935	1.478
D64	1.494	1.522	1.435	1.454	1.442	1.557	1.446	1.428	1.445	1.418	1.463	1.614	1.505	1.550	1.591	1.596	1.607	1.624	1.754	1.809	1.484
D65	1.483	1.463	1.409	1.511	1.446	1.565	1.450	1.535	1.527	1.541	1.574	1.708	1.516	1.655	1.605	1.637	1.714	1.656	1.718	1.764	1.479
D66	1.500	1.411	1.403	1.473	1.483	1.581	1.421	1.421	1.427	1.406	1.435	1.478	1.498	1.580	1.440	1.507	1.640	1.535	1.629	1.688	1.475
D67	1.531	1.415	1.465	1.561	1.500	1.650	1.597	1.585	1.633	1.617	1.648	1.609	1.644	1.716	1.658	1.665	1.685	1.830	1.884	1.946	1.520
D68	1.691	1.426	1.383	1.484	1.566	1.494	1.518	1.500	1.538	1.536	1.563	1.548	1.577	1.648	1.659	1.647	1.557	1.662	1.816	1.793	1.507
										Non-Breaking Series											
D71	1.895	1.854	1.807	1.912	1.940	2.024	1.954	1.960	1.949	1.934	1.895	1.874	1.781	1.806	1.825	1.810	1.761	1.749	1.785	1.759	1.905
D72	1.894	1.803	1.813	1.807	1.782	1.890	1.814	1.803	1.803	1.779	1.762	1.775	1.763	1.742	1.753	1.743	1.845	1.741	1.732	1.735	1.831
D73	1.801	1.834	1.847	1.882	1.924	1.885	1.967	1.925	1.925	1.900	1.867	1.782	1.848	1.800	1.801	1.842	1.843	1.782	1.799	1.828	1.862
D81	1.441	1.462	1.451	1.382	1.433	1.676	1.387	1.371	1.392	1.353	1.400	1.482	1.383	1.325	1.372	1.387	1.358	1.396	1.440	1.513	1.474
D82	1.501	1.407	1.394	1.365	1.404	1.590	1.371	1.444	1.462	1.445	1.466	1.405	1.427	1.402	1.414	1.385	1.499	1.444	1.450	1.478	1.443
D83	1.468	1.440	1.430	1.466	1.407	1.408	1.427	1.395	1.481	1.570	1.583	1.444	1.529	1.551	1.606	1.638	1.504	1.673	1.770	1.721	1.437
D84	1.540	1.502	1.403	1.417	1.397	1.492	1.415	1.439	1.427	1.418	1.393	1.442	1.328	1.377	1.438	1.479	1.485	1.437	1.529	1.530	1.458
D85	1.455	1.437	1.409	1.617	1.484	1.494	1.578	1.475	1.449	1.461	1.491	1.484	1.415	1.433	1.534	1.484	1.595	1.497	1.517	1.523	1.483
D86	1.479	1.411	1.380	1.444	1.451	1.556	1.420	1.400	1.425	1.420	1.453	1.349	1.447	1.410	1.412	1.371	1.539	1.371	1.381	1.476	1.454
D87	1.527	1.410	1.416	1.480	1.523	1.664	1.550	1.513	1.569	1.591	1.555	1.407	1.484	1.543	1.557	1.498	1.593	1.517	1.597	1.682	1.503

H1/3, Cm
Generalized Beach Model (GBM)

Test Case	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ave. 1-6
										Gage Numbers											
										Unimodal Series											
S01	14.65	13.55	12.20	14.22	14.13	14.83	14.30	14.28	14.36	14.40	13.50	12.50	13.14	12.36	12.03	12.99	12.80	10.53	9.31	8.44	13.93
S09	13.15	13.68	13.51	14.19	14.00	12.78	13.88	14.38	14.66	15.38	14.18	12.49	12.32	11.69	12.41	13.57	12.71	11.41	9.43	8.44	13.55
S13	15.95	11.76	14.22	12.25	11.93	14.32	12.58	12.70	13.44	14.28	13.89	12.80	11.66	11.66	12.65	13.53	12.65	10.82	9.20	8.54	13.41
S21	12.53	13.71	13.24	13.51	13.54	13.76	13.77	14.14	14.62	15.03	13.74	11.77	12.63	12.46	12.16	13.00	13.06	10.71	9.25	8.11	13.38
S25	14.63	13.46	12.34	12.89	13.41	12.44	13.41	14.00	14.57	14.71	13.52	11.52	12.76	12.07	12.09	13.15	11.87	10.66	8.65	7.83	13.19
S33	12.99	13.25	14.01	12.88	12.74	13.37	13.25	13.81	14.14	14.59	13.36	12.71	12.44	12.28	12.42	13.33	13.00	10.96	9.24	8.36	13.21
S37	11.77	11.43	10.92	12.67	11.35	10.59	11.84	11.10	10.88	10.30	9.65	9.60	9.40	9.76	9.69	9.89	9.69	9.03	7.94	7.24	11.46
S45	10.43	11.96	12.44	11.95	11.20	10.98	11.45	11.09	11.02	11.28	10.92	9.06	10.17	10.10	10.06	10.54	10.10	8.99	7.71	6.91	11.49
S49	11.92	11.60	11.95	10.91	11.39	11.38	11.14	11.34	11.59	11.65	10.36	9.43	10.03	9.33	9.66	10.12	9.61	8.64	7.41	6.74	11.53
S57	10.74	12.08	11.08	11.68	11.99	11.38	11.83	11.63	11.27	11.35	10.68	9.50	9.95	10.30	10.04	10.79	9.85	8.89	7.56	6.93	11.49
S61	10.75	11.30	10.37	12.28	12.35	11.59	12.17	10.94	10.67	10.54	9.81	9.07	9.94	8.88	9.40	9.52	9.12	8.22	7.14	6.66	11.44
S69	11.68	10.61	11.62	12.00	10.82	11.27	12.03	11.60	11.32	11.31	10.80	9.35	10.21	9.66	10.13	10.63	10.17	9.20	7.60	6.83	11.33
										Mode Superposition Series											
D01	7.78	6.61	6.78	7.15	7.04	8.18	7.48	7.70	7.99	8.36	8.45	9.08	8.27	8.26	8.52	9.40	9.19	9.10	8.08	7.62	7.26
D02	14.60	12.19	12.82	13.62	12.48	12.63	13.10	12.66	12.97	13.42	12.71	12.24	12.05	10.97	12.12	13.64	11.87	10.81	8.86	7.70	13.06
D03	14.69	12.70	13.07	14.12	13.37	14.35	13.55	13.11	13.60	13.71	12.92	11.64	11.63	10.94	11.60	12.82	11.78	10.46	8.91	7.91	13.72
D04	11.56	9.66	9.62	10.49	10.14	11.18	10.98	11.43	11.80	12.24	11.98	12.33	11.73	11.11	11.34	12.53	12.05	10.57	8.86	8.03	10.44
D05	10.89	9.14	10.07	10.58	10.06	10.49	10.27	10.12	10.41	11.02	10.76	10.90	10.50	10.11	11.61	11.65	10.78	9.82	8.66	7.76	10.20
D06	14.29	11.94	12.24	13.63	12.76	13.67	13.23	13.06	13.22	13.79	12.85	11.78	11.11	11.13	12.16	13.02	11.91	10.66	9.06	7.95	13.09
D07	12.98	11.18	11.07	11.96	11.74	12.26	12.29	12.50	13.06	13.62	12.40	12.23	12.13	11.42	11.60	12.74	11.95	10.45	8.89	7.93	11.86
D08	7.63	6.50	7.30	7.49	7.09	7.54	7.18	7.05	7.30	7.90	7.89	8.52	7.76	7.82	8.34	9.04	8.25	8.68	7.98	7.73	7.26
D09	13.23	10.93	11.34	12.35	11.89	12.78	12.38	12.33	13.06	13.49	12.50	12.01	10.89	11.19	11.80	13.02	11.79	10.48	9.16	8.08	12.09
										Directional Series											
D13	13.78	14.21	13.54	15.25	14.76	14.08	15.72	15.89	16.29	16.09	14.56	12.15	12.28	12.37	12.37	13.41	13.26	10.68	8.84	8.05	14.27
D16	13.70	13.62	12.94	14.64	14.90	13.60	14.86	15.35	15.64	15.65	14.24	12.49	11.94	12.21	12.48	13.67	13.18	10.88	9.25	7.85	13.90
D19	13.39	12.61	12.35	13.52	13.27	12.63	14.05	14.56	14.94	15.11	14.15	12.68	12.09	12.53	13.34	14.09	13.59	11.24	9.64	8.22	12.96
D23	14.26	13.72	13.15	14.08	14.67	14.19	14.50	14.95	15.23	15.42	13.86	12.36	11.96	12.35	12.32	13.15	13.07	10.74	9.11	8.00	14.01
D26	13.61	12.96	12.67	13.94	13.49	13.58	13.86	14.07	14.64	14.97	13.78	12.69	11.94	12.00	12.61	13.78	13.16	11.08	9.27	8.19	13.38
D29	12.67	12.68	13.15	13.29	13.63	11.94	13.57	14.13	15.14	15.84	14.72	12.39	12.22	12.58	12.81	13.77	13.17	10.93	9.02	7.97	12.89
D33	14.11	12.66	13.43	13.53	13.46	13.27	13.44	13.85	14.54	15.11	13.34	11.88	11.49	11.80	11.95	12.79	11.10	10.81	9.15	7.84	13.41
D36	13.12	12.61	12.18	12.64	12.94	12.65	12.53	13.75	14.73	14.57	12.95	11.59	11.63	11.71	11.83	12.79	11.37	10.84	9.10	8.06	12.69
D39	12.54	12.53	11.66	11.61	12.37	11.63	12.13	13.19	13.97	14.38	13.33	11.33	11.80	12.05	12.16	12.96	11.75	10.73	9.21	8.10	12.06
D43	13.59	12.77	13.87	13.92	13.76	12.47	14.17	14.50	14.81	15.51	14.12	12.13	11.41	12.14	12.78	13.77	12.88	10.93	9.20	7.83	13.40
D46	13.58	11.73	13.20	12.14	11.79	12.22	12.35	12.76	13.59	14.26	13.80	11.86	11.82	12.39	12.37	13.17	12.71	11.18	9.44	8.22	12.44
D49	12.16	11.04	11.60	11.89	11.69	12.53	12.37	12.74	13.66	14.34	13.69	12.10	11.32	12.11	12.70	13.38	12.99	11.15	9.51	8.28	11.8[illegible]

H1/3, Cm
Generalized Beach Model (GBM)

Test Case	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Avg 1-6
										Directional Series											
D51	15.24	13.52	13.42	13.66	14.06	15.04	13.80	14.34	14.94	15.35	13.55	12.42	12.34	11.91	12.26	13.61	12.45	10.69	8.99	8.11	14.16
D52	13.90	13.18	13.07	13.41	13.98	12.25	14.33	14.52	15.23	15.45	13.98	12.79	12.96	12.69	13.01	13.76	12.76	10.80	9.27	8.30	13.30
D53	13.49	13.15	13.12	13.04	12.53	12.97	13.22	13.97	14.68	14.86	13.82	11.83	12.60	12.18	12.48	13.65	13.22	11.33	9.65	8.46	13.05
D61	15.04	13.57	12.52	14.81	13.72	13.75	14.83	13.73	13.30	13.12	12.12	10.96	11.11	10.71	11.00	11.70	11.31	9.61	8.10	7.62	13.90
D62	14.49	13.00	13.25	13.61	13.66	12.20	13.42	13.38	13.59	13.84	12.94	11.34	11.48	11.26	11.53	12.48	11.44	10.13	8.47	7.79	13.37
D63	13.14	13.97	11.48	14.46	15.03	13.77	14.54	14.38	14.74	14.40	13.22	10.90	11.96	11.58	11.80	12.82	11.33	10.36	8.48	7.99	13.64
D64	14.05	13.73	14.08	12.59	12.86	13.26	12.58	13.06	13.29	13.23	12.66	11.59	11.54	11.44	11.47	12.48	11.81	10.44	8.84	7.98	13.43
D65	14.10	14.00	13.27	12.95	14.25	14.72	13.91	14.16	13.74	13.53	12.60	11.36	11.41	10.94	11.60	12.16	11.82	10.16	8.31	7.51	13.88
D66	14.10	12.74	13.93	12.78	12.67	12.90	12.77	13.14	13.14	13.23	12.41	11.13	11.59	11.28	11.28	12.10	11.79	9.99	8.42	7.69	13.18
D67	13.20	13.40	13.52	13.17	12.99	12.88	13.06	13.48	14.20	14.44	13.10	11.05	11.88	11.60	11.92	13.07	11.83	10.03	8.68	8.13	13.14
D68	13.53	13.23	14.07	12.53	12.66	12.97	12.76	12.98	13.48	13.78	12.87	11.36	11.79	11.21	11.66	12.57	11.24	10.38	8.56	7.78	13.17
										Non-Breaking Series											
D71	8.79	7.96	8.07	7.84	7.88	8.92	7.84	7.97	8.48	9.20	9.46	10.00	9.33	9.07	9.75	11.16	10.25	9.84	8.59	7.95	8.24
D72	8.02	7.64	7.66	7.72	7.80	7.39	7.8[illegible]	8.09	8.52	9.13	9.28	9.26	9.90	9.73	9.86	10.48	9.80	9.96	8.83	8.37	7.71
D73	7.94	7.66	7.68	7.52	7.15	7.98	7.61	7.72	8.20	8.79	8.99	9.30	9.47	9.44	9.58	10.27	9.93	9.69	8.62	8.00	7.66
D81	9.37	8.11	8.56	9.10	8.65	8.13	9.17	9.24	9.39	9.41	9.11	9.28	9.07	9.35	9.07	9.41	9.72	8.75	7.71	7.14	8.66
D82	8.52	8.03	8.10	8.13	8.09	7.49	7.99	7.98	8.25	8.57	8.60	8.41	8.79	8.76	8.74	9.46	8.49	9.02	8.07	7.69	8.06
D83	8.20	8.70	7.51	7.59	8.90	9.20	8.52	9.14	9.56	9.41	9.24	7.86	9.20	9.19	9.25	10.08	8.68	9.35	8.43	7.75	8.35
D84	8.26	8.16	8.28	7.6[illegible]	7.65	8.02	7.81	8.00	8.18	8.43	8.39	8.92	9.03	8.76	8.63	8.98	8.37	8.94	8.45	7.73	8.01
D85	8.84	8.34	8.68	7.04	7.77	9.28	7.75	8.67	9.10	9.20	9.03	8.77	8.95	8.89	8.74	9.13	9.17	8.46	7.70	7.41	8.32
D86	8.68	7.72	8.49	7.69	7.48	7.72	7.79	7.66	7.95	8.17	8.14	8.67	8.69	8.85	8.50	8.99	8.41	8.89	8.16	7.66	7.96
D87	7.81	8.15	8.26	7.62	7.60	7.84	7.61	7.63	8.21	8.65	8.58	8.37	8.84	9.13	9.04	9.77	9.04	9.34	8.58	7.88	7.88

APPENDIX F: SPECTRAL ANALYSIS RESULTS

TPC, Sec (1/FPC)
Single Peak Directional Series
Generalized Beach Model (GBM)

Test Case	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ave. 1-6
										Unomodal Series											
S01	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.33	2.40	2.30	2.30	2.33	2.33	2.33	2.33	2.33	2.30
S09	2.45	2.33	2.28	2.33	2.33	2.45	2.33	2.33	2.33	2.33	2.33	2.33	2.31	2.53	2.33	2.33	2.43	2.33	2.33	2.33	2.36
S13	2.33	2.33	2.55	2.55	2.33	2.55	2.55	2.33	2.33	2.33	2.55	2.55	2.33	2.33	2.55	2.55	2.33	2.59	2.59	2.59	2.44
S21	2.46	2.29	2.33	2.50	2.50	2.42	2.50	2.50	2.50	2.50	2.50	2.38	2.36	2.49	2.50	2.50	2.35	2.49	2.49	2.49	2.42
S25	2.35	2.35	2.35	2.35	2.55	2.35	2.35	2.35	2.35	2.35	2.35	2.55	2.35	2.35	2.30	2.30	2.34	2.30	2.30	2.55	2.38
S33	2.56	2.20	2.25	2.30	2.36	2.56	2.25	2.25	2.25	2.25	2.25	2.63	2.67	2.27	2.20	2.25	2.59	2.20	2.20	2.49	2.37
S37	1.34	1.28	1.28	1.30	1.20	1.18	1.30	1.28	1.28	1.28	1.30	1.28	1.28	1.30	1.28	1.28	1.30	1.28	1.28	1.30	1.26
S45	1.28	1.20	1.24	1.24	1.25	1.20	1.24	1.24	1.24	1.24	1.24	1.21	1.24	1.23	1.23	1.23	1.29	1.23	1.23	1.23	1.23
S49	1.19	1.19	1.27	1.24	1.24	1.24	1.24	1.19	1.19	1.19	1.24	1.19	1.19	1.19	1.29	1.24	1.19	1.29	1.26	1.29	1.23
S57	1.22	1.23	1.20	1.24	1.26	1.30	1.24	1.26	1.26	1.26	1.26	1.19	1.24	1.23	1.24	1.26	1.30	1.24	1.35	1.35	1.24
S61	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.23	1.23	1.20	1.20	1.20	1.20	1.20	1.29	1.29	1.20	1.24	1.24	1.20
S69	1.28	1.18	1.26	1.17	1.28	1.26	1.20	1.19	1.23	1.29	1.29	1.28	1.25	1.17	1.28	1.30	1.17	1.28	1.28	1.24	1.24
										Mode Superposition Series											
D01	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.54	2.58	2.54	2.54	2.54	2.54	2.53	2.53	2.51	2.54
D02	1.74	1.74	1.72	1.72	1.72	1.74	1.72	1.72	1.72	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.76	1.76	1.73
D03	1.74	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.73	1.77	1.91	1.71	1.71	1.79	1.79	1.79	1.79	1.91	1.90	1.71
D04	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.50	2.44
D05	1.68	1.68	1.68	1.73	1.68	1.75	1.73	1.73	1.73	1.73	1.73	1.68	1.73	1.68	1.73	1.73	1.73	1.73	1.73	1.78	1.70
D06	1.80	1.79	1.67	1.67	1.67	1.67	1.67	2.53	2.53	1.81	1.81	2.58	2.53	2.53	1.81	1.81	2.53	2.51	2.51	2.58	1.71
D07	2.46	2.46	2.44	2.46	2.46	2.44	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.44	2.44	2.46
D08	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.74	1.79	1.79	1.66	1.71	1.71	1.78	1.78	1.71	1.78	1.78	1.78	1.74
D09	2.56	2.54	2.53	2.53	2.54	2.54	2.53	2.53	2.53	2.53	2.56	2.56	2.56	2.56	2.56	2.51	2.56	2.56	2.56	2.56	2.54
										Directional Series											
D13	1.77	1.70	1.75	1.67	1.67	1.66	1.72	1.72	1.72	1.72	1.72	1.80	1.66	1.75	1.72	1.71	1.72	1.75	1.75	1.75	1.70
D16	1.79	1.74	1.79	1.76	1.76	1.67	1.77	1.79	1.79	1.79	1.79	2.54	1.76	1.75	1.79	2.42	2.49	2.44	2.48	2.48	1.75
D19	2.50	2.53	2.54	2.45	2.43	2.54	2.45	2.43	2.43	2.43	2.43	2.53	2.50	2.53	2.43	2.43	2.49	2.43	2.43	2.43	2.50
D23	1.70	1.72	1.74	1.72	1.72	1.74	1.72	1.72	1.72	1.72	1.72	1.71	1.71	1.71	1.69	1.72	1.72	1.72	1.72	1.72	1.72
D26	1.75	1.82	1.76	1.79	1.77	1.74	1.75	1.75	1.75	1.77	1.77	2.40	2.48	2.46	1.77	1.77	2.39	1.77	2.45	2.45	1.77
D29	2.45	2.45	2.45	2.44	2.44	2.51	2.44	2.46	2.46	2.46	2.46	2.45	2.46	2.46	2.46	2.46	2.45	2.46	2.46	2.46	2.46
D33	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75	1.75
D36	1.77	1.77	1.77	1.77	1.77	1.77	1.77	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	1.77
D39	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.46	2.50	2.50	2.50	2.46	2.46	2.50	2.48	2.48	2.50
D43	1.71	1.72	1.71	1.73	1.73	1.71	1.73	1.73	1.73	1.73	1.73	1.75	1.71	1.72	1.73	1.73	1.71	1.73	1.73	1.73	1.72
D46	1.77	1.75	1.75	1.84	1.80	1.71	1.84	1.84	1.67	1.67	1.67	2.39	2.50	2.50	1.83	1.67	1.69	2.54	2.54	2.54	1.77
D49	1.63	2.56	2.40	2.39	2.44	2.48	2.39	2.46	2.46	2.46	2.46	2.56	2.40	2.39	2.49	2.46	2.58	2.49	2.49	2.49	2.3[illegible]

TFC, Sec (1/FPC)
Generalized Beach Model (GBM)

Test Case	Gage Numbers 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ave. 1-6
										Directional Series											
051	1.74	1.75	1.75	2.53	2.44	2.44	2.49	2.44	2.44	2.44	2.44	2.44	2.49	2.44	2.44	2.44	2.44	2.49	2.49	2.45	2.11
052	2.46	1.68	2.49	1.69	1.69	2.49	1.69	1.69	1.69	1.68	1.68	2.51	1.79	1.79	2.43	2.43	2.48	2.40	2.40	2.40	2.08
053	1.74	1.75	1.77	2.40	2.40	2.48	2.40	2.40	2.40	2.40	2.40	2.48	2.45	2.40	2.40	2.38	2.50	2.40	2.40	2.37	2.09
061	1.25	1.25	1.25	2.53	2.53	2.53	2.49	2.50	2.50	2.50	2.50	2.58	2.50	2.50	2.58	2.58	2.54	2.58	2.58	2.58	1.89
062	2.46	1.25	1.20	1.23	1.20	2.49	1.23	1.22	1.22	1.26	1.26	2.53	2.40	2.42	1.26	1.25	2.49	2.45	2.45	2.49	1.64
063	2.45	2.5	1.24	1.24	1.24	1.24	1.24	2.45	2.45	2.51	2.51	2.50	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	1.65
064	1.27	1.21	1.26	1.22	1.27	2.53	1.22	1.21	1.21	2.44	2.44	2.45	1.25	2.46	2.44	2.44	2.53	2.44	2.44	2.44	1.46
065	1.26	1.22	1.26	2.50	1.24	2.50	2.50	2.50	2.50	2.50	2.51	2.50	2.53	2.53	2.51	2.51	2.51	2.51	2.51	2.51	1.66
066	1.19	1.29	1.26	1.22	1.22	2.49	1.22	1.21	1.21	1.21	1.21	2.51	2.45	2.42	2.45	2.45	2.49	2.45	2.45	2.45	1.44
067	1.25	1.24	1.22	2.40	2.40	2.48	2.40	2.40	2.40	2.40	2.40	2.48	2.45	2.45	2.40	2.38	2.50	2.39	2.39	2.39	1.83
068	2.49	1.27	1.20	1.21	1.29	1.23	2.49	2.43	2.43	2.42	2.42	2.38	2.49	2.49	2.42	2.42	2.43	2.42	2.42	2.42	1.45
										Non-Breaking Series											
071	2.44	1.75	1.75	1.74	2.44	2.44	2.49	2.44	2.44	2.44	2.44	2.44	2.49	2.44	2.44	1.74	2.44	1.74	2.49	2.49	2.09
072	2.46	1.68	1.82	1.69	1.69	2.49	1.69	1.69	1.69	1.69	1.69	1.66	1.79	1.78	1.68	1.68	1.75	1.68	1.68	2.40	1.97
073	1.74	1.75	1.77	1.71	2.40	2.48	2.40	2.40	2.40	2.40	2.40	1.76	1.79	2.40	2.40	2.40	2.48	2.40	2.40	2.40	1.97
081	1.25	1.25	1.25	1.25	1.25	2.50	1.25	1.25	1.25	1.25	1.24	2.51	1.26	1.25	1.24	1.24	1.24	2.51	2.51	2.51	1.46
082	2.46	1.25	1.21	1.23	1.24	2.49	1.23	1.23	1.27	1.27	1.26	1.22	1.23	1.23	1.26	1.26	1.25	1.26	1.26	1.26	1.65
083	1.25	1.25	1.24	1.25	1.24	1.24	1.24	2.45	2.45	2.45	2.49	2.50	2.50	2.50	2.49	2.50	2.49	2.51	2.50	2.51	1.25
084	1.27	1.30	1.26	1.21	1.27	1.22	1.22	1.22	1.22	1.21	2.44	1.25	1.28	1.24	2.44	2.46	2.53	2.44	2.46	2.46	1.25
085	1.20	1.20	1.27	2.50	2.49	2.49	2.50	1.24	2.45	2.45	2.48	2.45	2.49	2.53	2.51	2.48	2.53	2.51	2.51	2.51	1.86
086	1.19	1.29	1.26	1.21	1.22	1.23	1.23	1.21	1.21	1.21	1.21	1.26	1.29	1.29	2.43	2.43	1.26	2.44	2.44	2.44	1.23
087	1.23	1.23	1.22	1.24	1.25	2.48	1.25	2.40	2.40	2.40	2.40	2.48	2.45	2.40	2.39	2.38	2.54	2.39	2.39	2.39	1.44

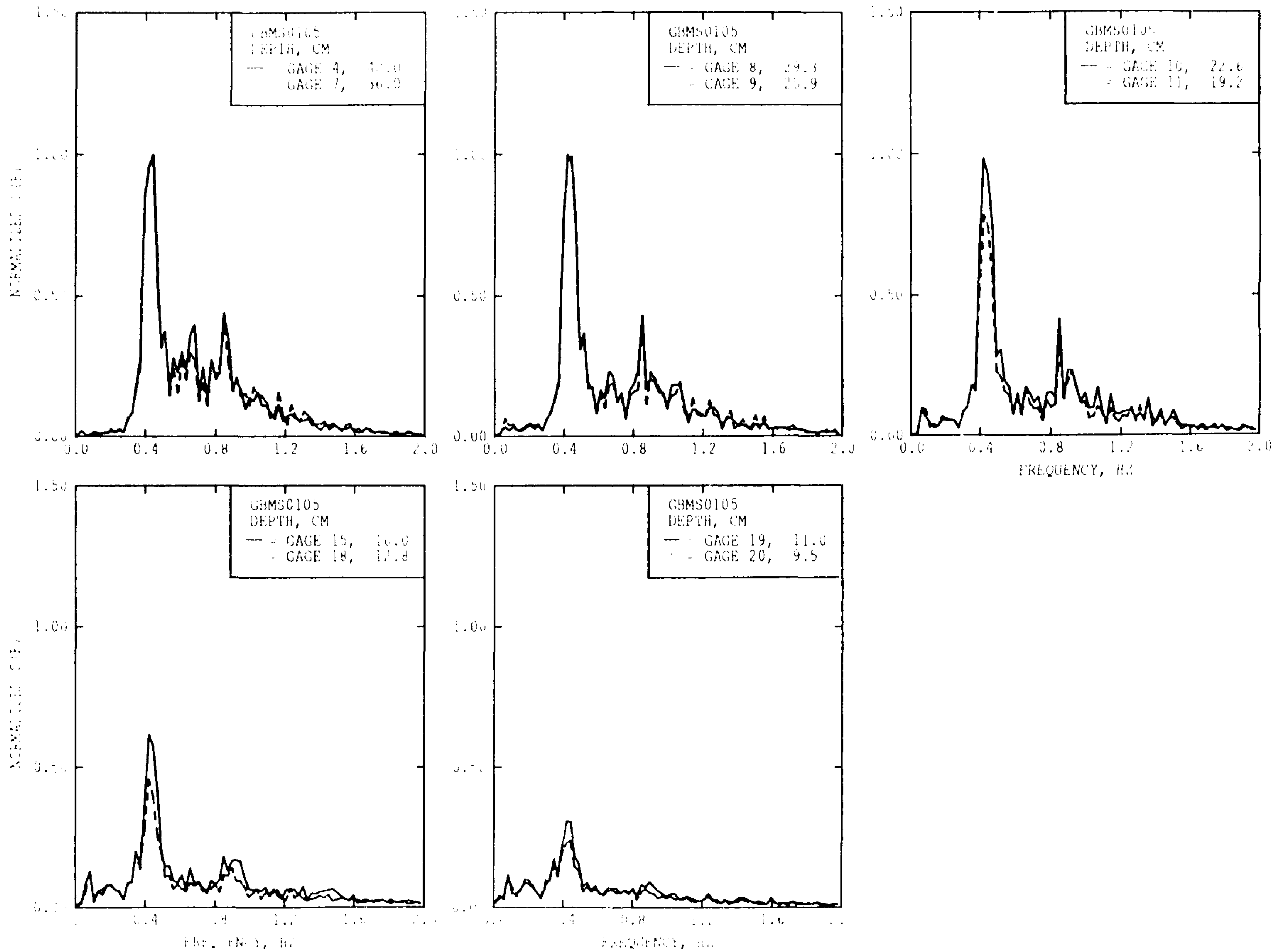
Hm0, Cm
Generalized Beach Model (GBM)

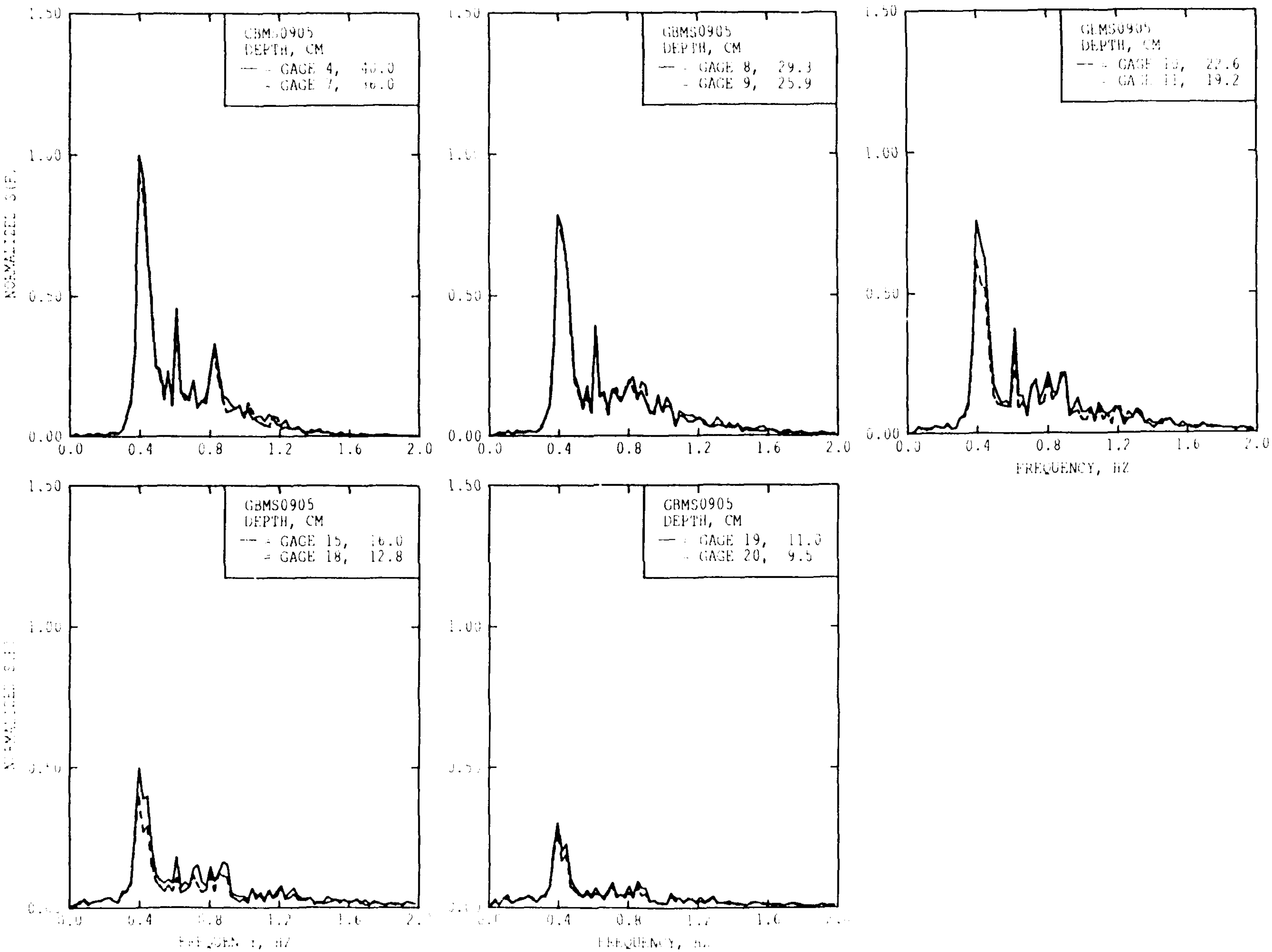
Test Case	Gage Numbers 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ave. 1-6
Unimodal Series																					
S01	14.85	13.64	12.58	14.30	14.14	14.76	14.13	13.82	13.72	13.73	12.66	11.80	12.15	11.72	11.58	12.21	11.81	10.27	9.14	8.49	14.04
S09	13.50	14.05	14.06	14.43	14.40	13.14	14.12	13.82	13.97	14.18	13.18	11.40	11.36	11.20	11.90	12.46	11.31	10.57	9.24	8.57	13.93
S13	15.90	11.70	14.15	12.28	11.92	14.25	12.19	12.21	12.64	13.16	12.56	11.72	11.00	10.98	11.92	12.54	11.66	10.40	9.26	8.66	13.37
S21	12.82	13.89	13.71	13.84	14.11	14.31	13.87	13.97	14.03	14.06	12.87	10.82	11.63	11.55	11.72	12.19	11.65	10.21	9.02	8.29	13.78
S25	15.20	14.00	12.72	13.38	14.10	12.97	13.69	13.89	13.86	13.71	12.49	10.74	11.78	11.32	11.30	11.74	10.53	9.84	8.56	7.97	13.73
S33	13.31	13.73	14.37	13.22	12.87	13.76	13.23	13.18	13.29	13.41	12.39	11.39	11.59	11.54	11.66	12.10	11.61	10.26	9.04	8.42	13.54
S37	11.66	11.40	10.89	12.46	11.33	10.63	12.04	11.35	11.05	10.79	10.02	9.54	9.54	9.71	9.96	10.15	9.84	9.34	8.45	7.61	11.39
S45	11.04	12.26	12.84	12.15	11.65	11.40	11.87	11.37	11.40	11.40	10.85	8.85	10.27	10.24	10.19	10.32	9.73	8.98	7.83	7.14	11.89
S49	12.15	11.68	11.90	11.08	11.56	11.64	10.88	10.96	11.19	11.38	10.31	9.33	9.79	9.42	9.60	9.95	9.38	8.65	7.73	[illegible]	11.67
S57	11.10	12.30	11.48	12.41	12.40	11.61	12.27	11.68	11.60	11.48	10.75	9.31	9.59	10.40	10.12	10.75	9.42	8.80	7.74	[illegible]	11.88
S61	10.76	11.63	10.31	12.45	12.28	11.61	12.28	11.11	10.81	10.55	9.78	8.87	9.77	9.04	9.36	9.64	8.88	8.38	7.43	6.97	11.51
S69	11.87	11.15	11.92	12.39	11.39	11.62	12.30	11.96	11.80	11.65	10.70	9.35	9.99	9.81	9.98	10.36	9.97	8.78	7.67	7.07	11.72
Mode Superposition Series																					
D01	8.01	6.84	7.10	7.51	7.34	8.49	7.73	7.92	8.30	8.51	8.24	7.92	7.48	7.92	8.23	8.55	8.27	8.15	7.52	7.28	7.55
D02	14.59	12.36	12.87	13.80	12.59	12.60	13.14	12.35	12.55	12.71	12.06	11.30	11.10	10.38	11.38	12.39	10.98	10.13	8.82	8.04	13.14
D03	14.64	12.71	13.19	14.20	13.49	14.31	13.70	13.20	13.29	13.27	12.24	11.25	11.17	10.57	11.30	12.27	11.45	10.13	8.93	[illegible]	13.76
D04	11.72	10.01	10.07	10.94	10.60	11.59	11.10	11.29	11.57	11.71	10.99	10.53	10.33	10.22	10.38	10.84	10.29	9.53	8.44	7.91	10.82
D05	10.99	9.29	10.29	10.80	10.19	10.73	10.48	10.13	10.42	10.76	10.33	10.11	9.81	9.50	10.17	10.84	9.95	9.32	8.33	[illegible]	10.38
D06	14.12	12.10	12.46	13.78	13.09	13.97	13.29	12.59	12.84	13.03	12.15	11.27	10.39	10.54	11.56	12.11	11.26	10.29	9.14	8.43	13.25
D07	13.37	11.38	11.50	12.34	11.95	12.49	12.50	12.39	12.54	12.51	11.54	11.06	11.17	10.30	10.86	11.50	10.71	9.98	8.85	8.19	12.17
D08	7.90	6.65	7.47	7.68	7.31	7.82	7.53	7.34	7.62	7.97	7.84	7.82	7.33	7.32	8.05	8.49	7.78	7.91	7.45	7.17	7.47
D09	13.28	11.41	11.53	12.63	12.21	13.10	12.55	12.42	12.74	12.81	11.91	11.33	10.27	10.38	11.27	11.95	11.14	10.13	9.08	8.34	12.36
Directional Series																					
D13	14.28	14.49	13.97	15.49	15.28	14.05	14.95	15.04	15.15	14.84	13.33	11.42	11.36	11.66	11.97	12.58	12.06	10.34	8.98	8.22	14.59
D16	13.68	13.68	13.31	14.64	14.96	13.60	14.38	14.30	14.41	14.17	12.89	11.30	10.89	11.48	11.80	12.35	11.81	10.06	8.87	8.07	13.98
D19	13.59	12.84	12.46	13.69	13.66	12.89	13.47	13.52	13.75	13.79	12.86	11.17	11.08	11.60	12.03	12.63	11.84	10.40	9.21	8.25	13.19
D23	14.63	14.22	13.37	14.71	15.32	13.93	14.48	14.59	14.63	14.48	13.05	11.70	11.48	11.79	11.81	12.30	11.96	10.15	8.99	8.15	14.36
D26	13.87	13.35	12.86	14.21	13.76	13.42	13.71	13.43	13.67	13.79	12.75	11.42	11.13	11.26	11.88	12.56	11.76	10.29	9.04	8.22	13.58
D29	13.23	13.05	13.48	13.78	14.02	12.00	13.80	13.77	14.21	14.37	13.10	11.11	11.02	11.58	11.99	12.21	11.57	10.20	8.90	8.10	13.26
D33	14.17	13.02	13.48	13.56	13.63	13.26	13.31	13.46	13.99	14.20	12.83	11.11	10.84	11.57	11.59	12.12	10.69	10.15	8.92	8.04	13.52
D36	13.40	12.88	12.26	12.79	13.31	12.86	12.74	13.26	13.81	13.89	12.57	10.97	10.93	11.36	11.52	12.09	10.60	10.18	8.94	8.18	12.92
D39	12.81	12.92	11.81	12.15	12.65	12.22	12.25	12.54	13.04	13.34	12.43	10.54	10.71	11.23	11.53	12.05	10.66	10.11	8.94	8.12	12.43
D43	13.75	13.22	14.09	13.86	14.05	12.67	13.98	13.96	14.18	14.26	12.98	11.29	10.72	11.37	11.96	12.45	11.70	10.17	8.85	7.93	13.61
D46	13.97	12.18	13.47	12.48	11.91	12.16	12.62	12.54	12.95	13.16	12.39	10.76	10.81	11.31	11.60	11.91	11.10	10.14	8.93	8.15	12.69
D49	12.04	11.66	11.97	11.99	11.81	12.36	12.21	12.11	12.49	12.62	11.87	10.78	10.28	10.97	11.14	11.47	11.23	9.95	8.80	[illegible]	[illegible]

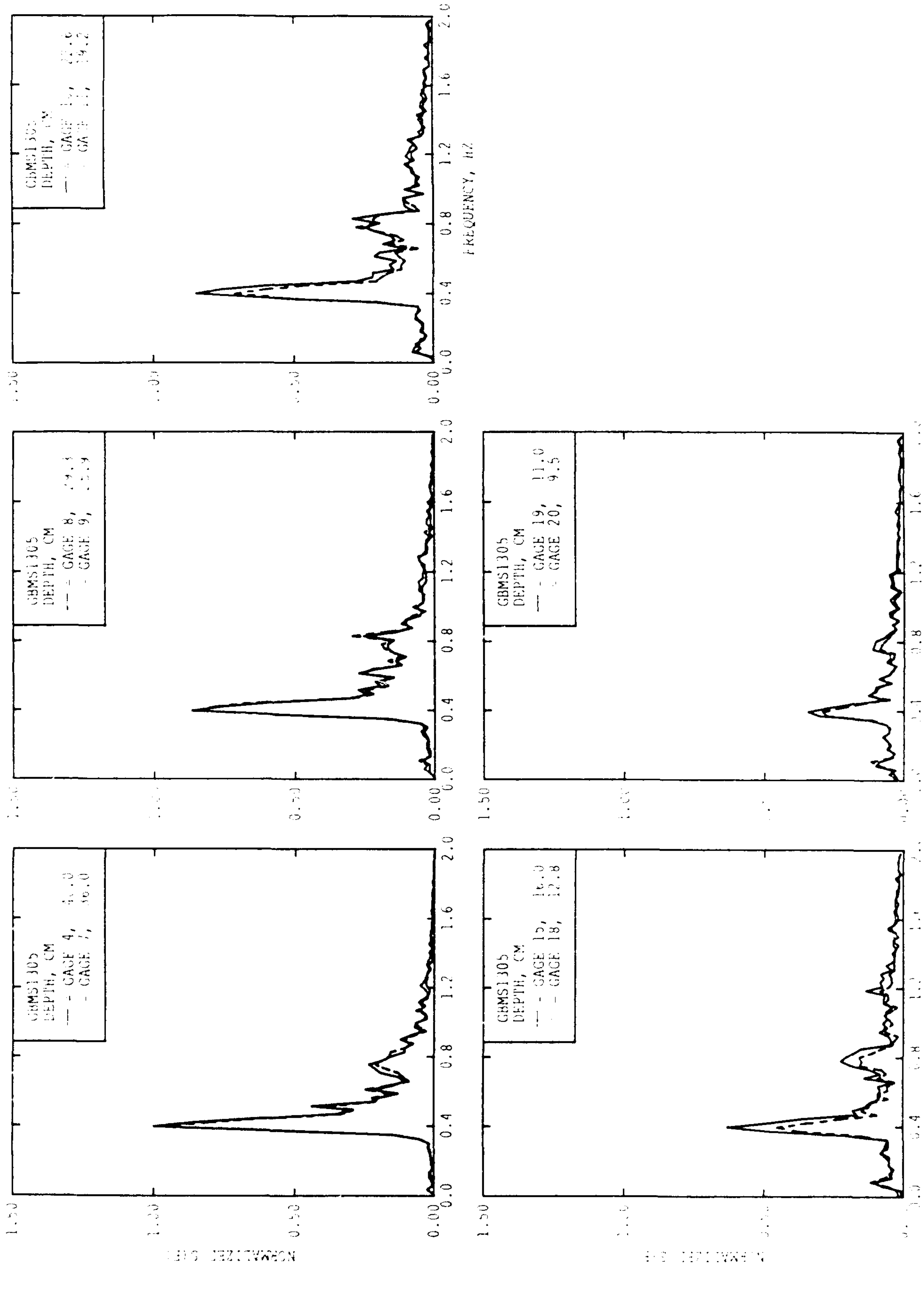
HmO, Cm
Generalized Beach Model (GBM)

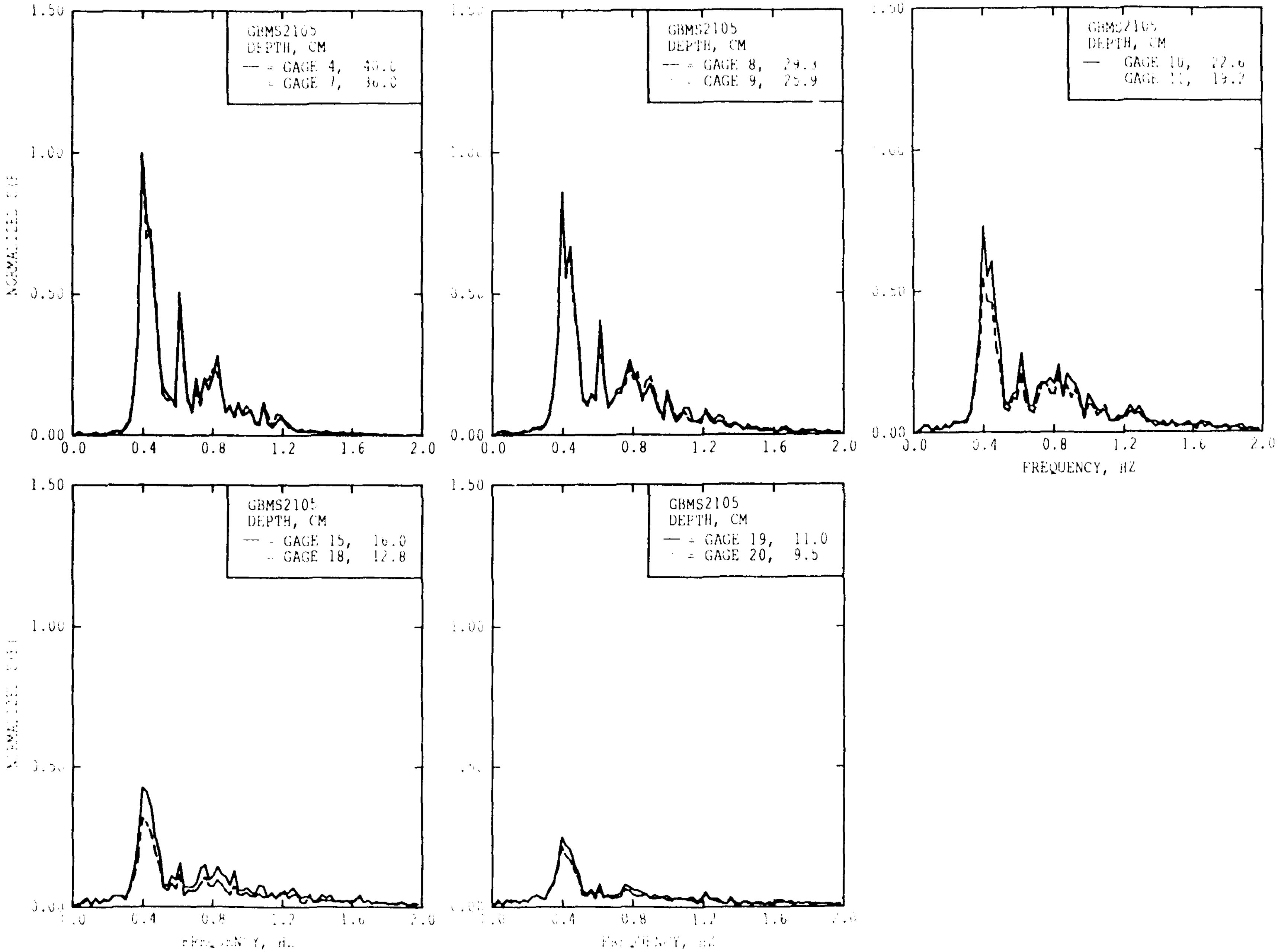
Test Case	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Ave. 1-6
										Directional Series											
051	15.11	13.49	13.52	13.60	14.03	14.76	13.68	13.76	14.03	14.03	12.69	11.63	11.43	11.27	11.76	12.44	11.52	10.30	9.02	8.31	14.09
052	14.27	13.12	13.44	13.72	14.18	12.33	13.76	13.85	14.03	13.90	12.72	11.48	12.17	11.93	11.66	12.06	11.30	10.20	9.00	8.28	13.51
053	13.87	13.09	13.66	13.19	12.84	13.10	13.28	13.63	13.90	13.87	12.80	10.93	11.17	11.37	11.81	12.38	11.55	10.63	9.31	8.40	13.29
061	15.16	13.98	12.89	15.04	14.34	14.32	15.08	13.77	13.20	12.85	11.93	10.79	11.10	10.68	11.14	11.61	11.16	9.67	8.49	7.96	14.29
062	14.72	13.44	13.94	14.17	14.51	13.06	13.84	13.35	13.41	13.49	12.59	10.93	11.28	11.17	11.44	12.10	11.02	9.96	8.62	7.91	13.97
063	13.71	14.33	11.91	14.29	14.96	13.98	14.54	14.32	14.28	14.07	12.82	10.64	11.75	11.35	11.59	12.48	10.95	10.20	8.90	8.25	13.86
064	14.17	14.29	14.58	13.21	13.32	13.79	13.25	13.19	13.33	13.52	12.77	11.19	11.33	11.34	11.77	12.25	11.16	10.30	8.97	8.18	13.89
065	14.74	14.24	14.01	13.47	14.94	15.35	14.27	14.17	13.92	13.55	12.31	11.17	11.20	10.92	11.29	11.87	11.39	9.88	8.55	7.84	14.46
066	14.78	13.08	14.94	13.36	13.31	13.59	13.20	12.93	12.97	13.00	12.18	10.72	11.63	11.17	11.19	11.82	11.05	9.79	8.58	7.92	13.84
067	13.87	13.97	13.74	13.52	13.63	13.16	13.65	13.79	14.14	14.15	12.97	10.75	11.51	11.45	11.69	12.53	11.08	9.96	8.76	8.27	13.65
068	13.82	13.80	14.47	13.02	13.44	13.62	12.90	13.01	13.41	13.60	12.65	11.10	11.18	11.39	11.52	12.11	11.08	10.08	8.73	8.06	13.69
										Non-Breaking Series											
071	8.90	8.07	8.27	7.92	8.06	8.99	7.96	8.03	8.44	8.87	8.75	8.69	8.07	8.20	8.79	9.50	8.91	8.54	7.81	7.41	8.37
072	8.41	7.83	7.95	7.93	8.08	7.52	7.97	8.09	8.43	8.73	8.51	8.10	8.59	8.51	8.47	8.97	8.24	8.23	7.62	7.34	7.95
073	8.33	7.83	8.10	7.80	7.41	8.14	7.87	7.90	8.22	8.57	8.40	8.16	8.02	8.25	8.50	8.76	8.31	8.26	7.60	7.38	7.94
081	9.72	8.43	8.87	9.27	8.98	8.60	9.37	9.29	9.40	9.38	8.84	8.70	8.76	9.00	8.66	8.88	9.15	8.25	7.55	7.20	8.98
082	8.90	8.37	8.58	8.63	8.67	8.03	8.45	8.24	8.43	8.64	8.39	8.09	8.17	8.26	8.31	8.80	7.96	8.20	7.66	7.36	8.53
083	8.71	9.08	7.93	7.72	9.21	9.47	8.77	9.57	9.73	9.73	9.26	7.56	8.79	8.97	9.04	9.46	8.29	8.66	7.89	7.42	8.69
084	8.58	8.53	8.75	8.09	8.06	8.46	8.28	8.32	8.50	8.64	8.45	8.40	8.50	8.44	8.48	8.66	7.87	8.47	7.98	7.64	8.41
085	9.42	8.68	9.25	7.38	8.24	9.79	8.10	9.08	9.33	9.39	8.89	8.61	8.57	8.72	8.47	8.82	8.56	8.05	7.48	7.20	8.79
086	9.24	7.92	9.10	8.13	8.00	8.24	8.18	8.08	8.26	8.48	8.30	8.10	8.43	8.55	8.33	8.75	7.76	8.34	7.83	7.56	8.44
087	8.23	8.51	8.59	8.01	7.96	8.19	8.09	8.21	8.60	8.91	8.74	8.02	8.32	8.61	8.73	9.22	8.30	8.55	7.95	7.60	8.25

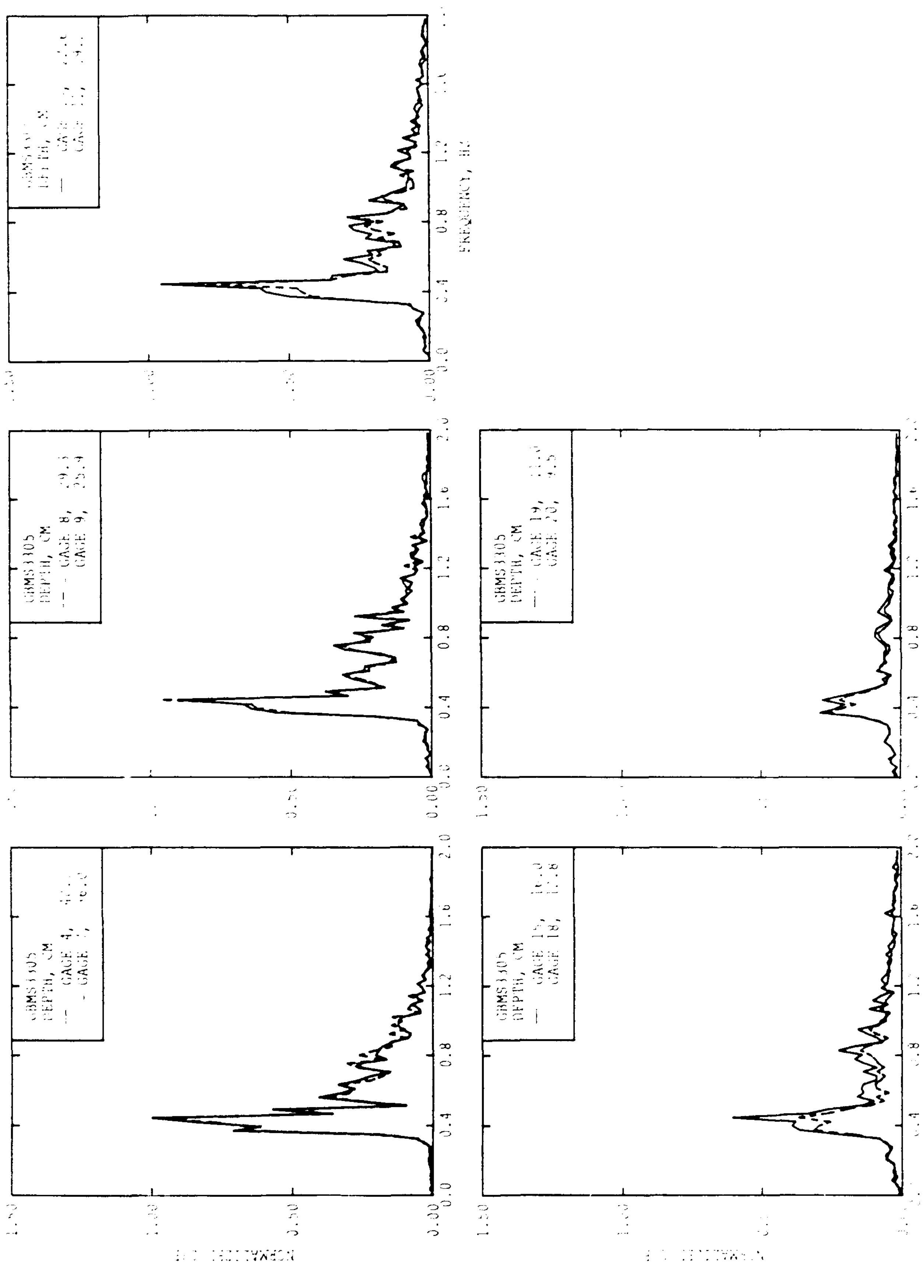
APPENDIX G: LINEAR CROSS-SHORE ARRAY SPECTRA

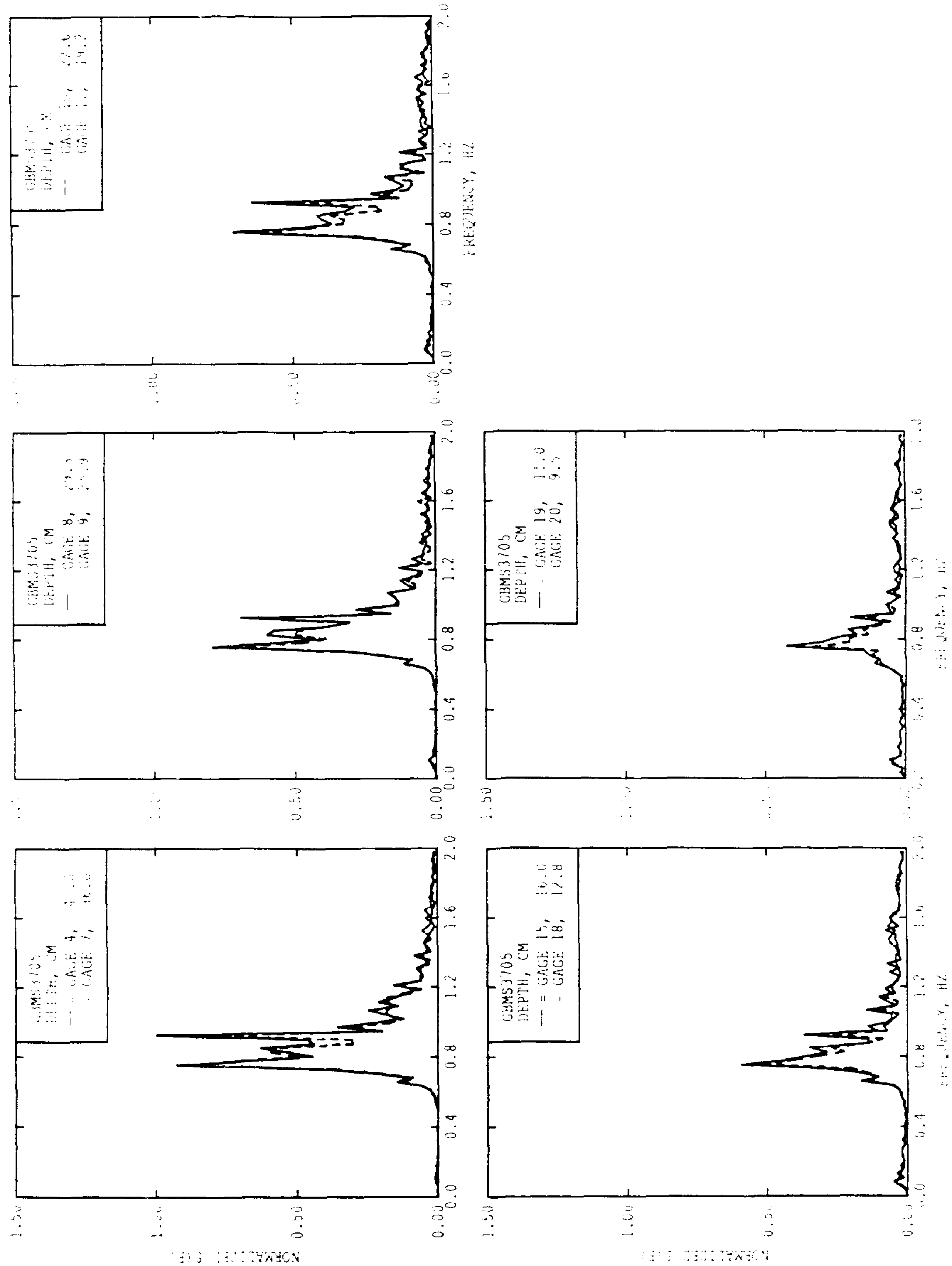

GBMS0105
DEPTH, CM
GAGE 4,
GAGE 7,
GBMS0105
DEPTH, CM
GAGE 8,
GAGE 9,
GBMS0105
DEPTH, CM
GAGE 11, 19.2
GBMS0105
DEPTH, CM
GAGE 15,
GAGE 18,
GBMS0105
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
FREQUENCY, HZ
0.0
0.4
0.8
1.2
1.6
2.0
0.00
0.50
1.00
1.50

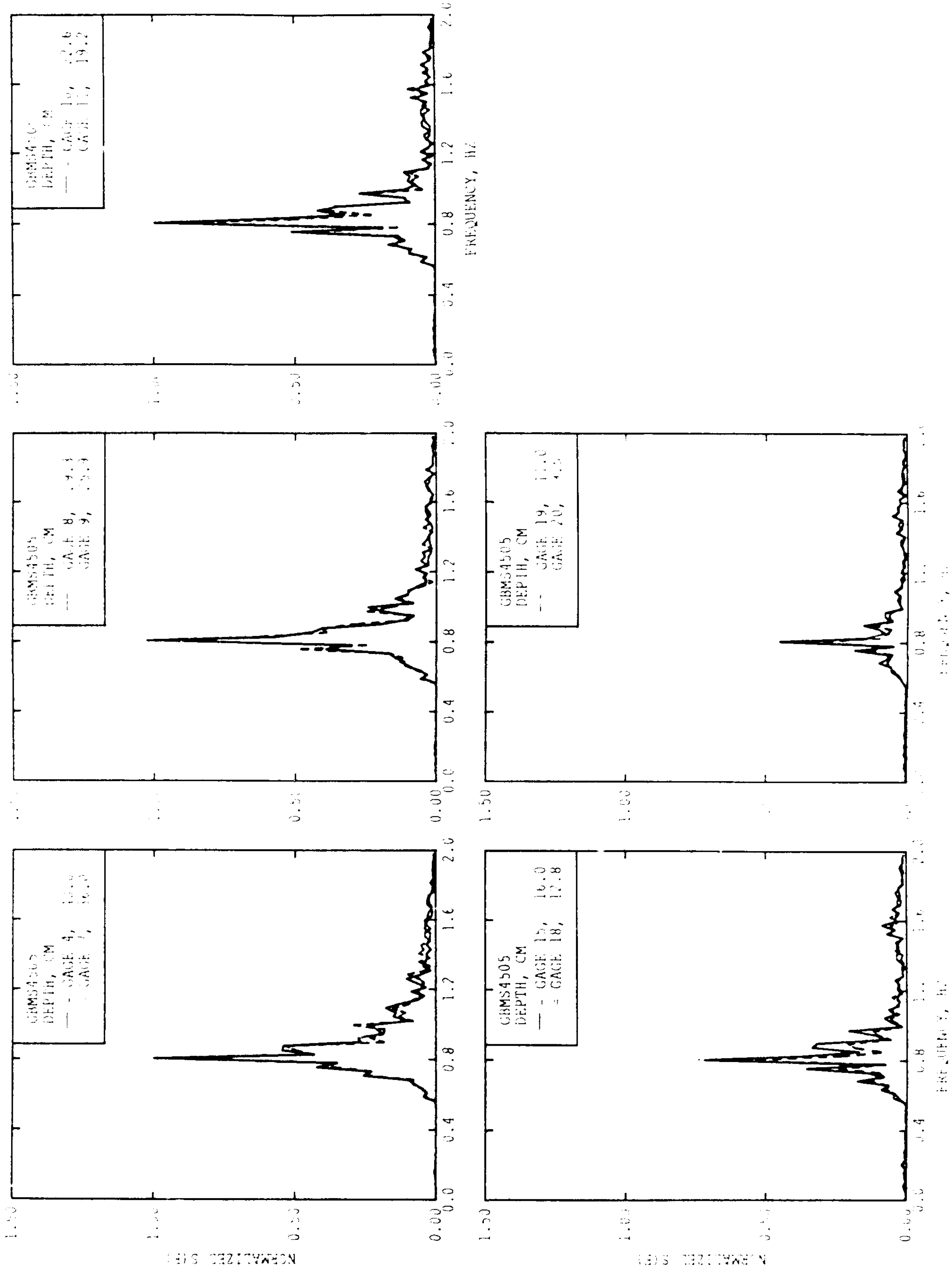

GBMS0905
DEPTH, CM
GAGE 8, 29.3
GAGE 9, 25.9
GBMS0905
DEPTH, CM
GAGE 15,
GAGE 18, 12.8
GBMS0905
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
FREQUENCY, HZ
0.0
0.4
0.8
1.2
1.6
2.0
0.00
0.50
1.00
1.50

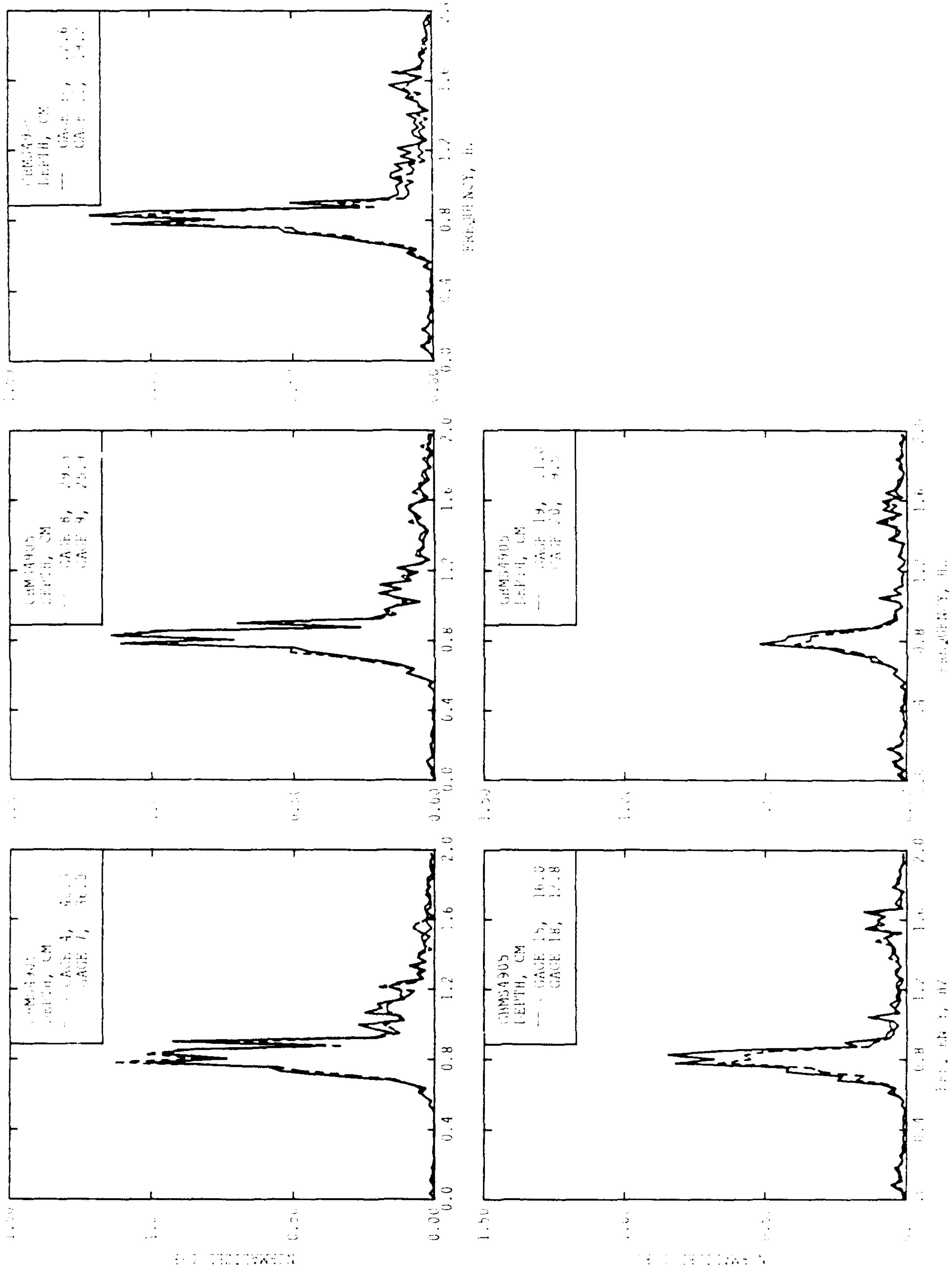

GBMS1305
DEPTH, CM
GAGE 8,
GAGE 9,
GAGE 19, 11.0
GAGE 20, 9.5
GAGE 18, 12.8
FREQUENCY, HZ

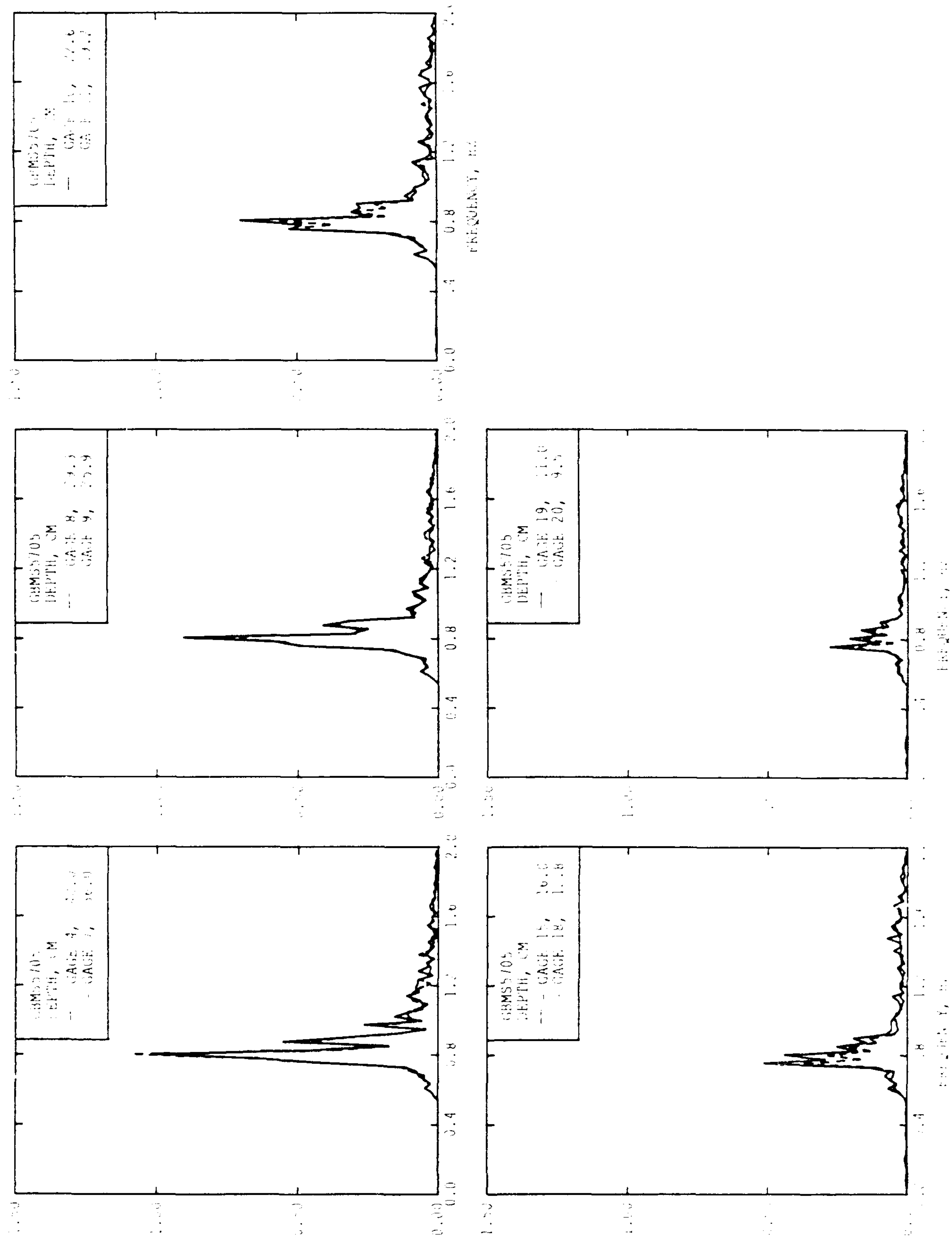

GBMS2105
DEPTH, CM
GAGE 4,
GAGE 7,
GBMS2105
DEPTH, CM
GAGE 8,
GAGE 9,
GBMS2105
DEPTH, CM
GAGE 10,
FREQUENCY, HZ
GBMS2105
DEPTH, CM
GAGE 15,
GAGE 18, 12.8
GBMS2105
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
0.0
0.4
0.8
1.2
1.6
2.0
0.00
0.50
1.00
1.50

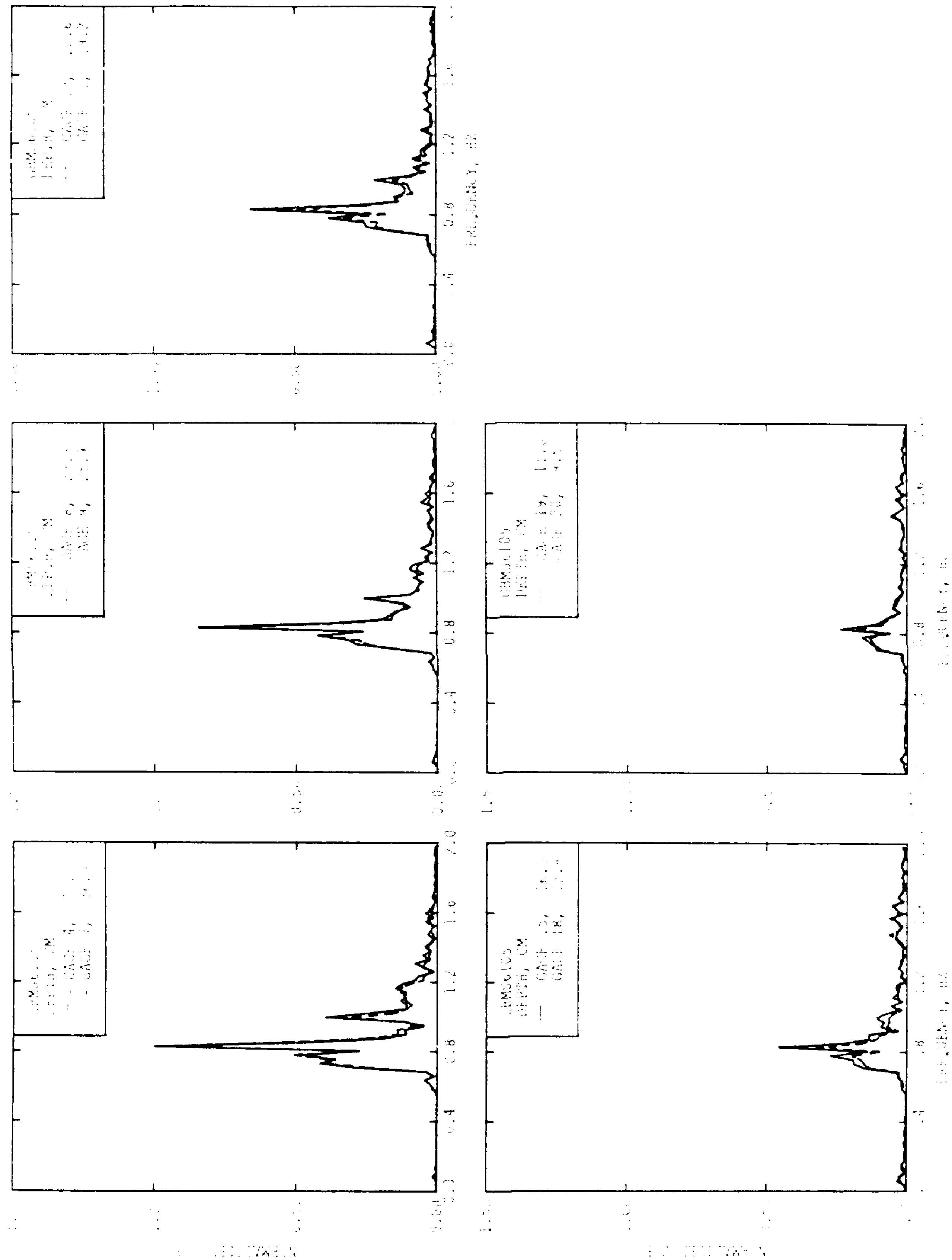


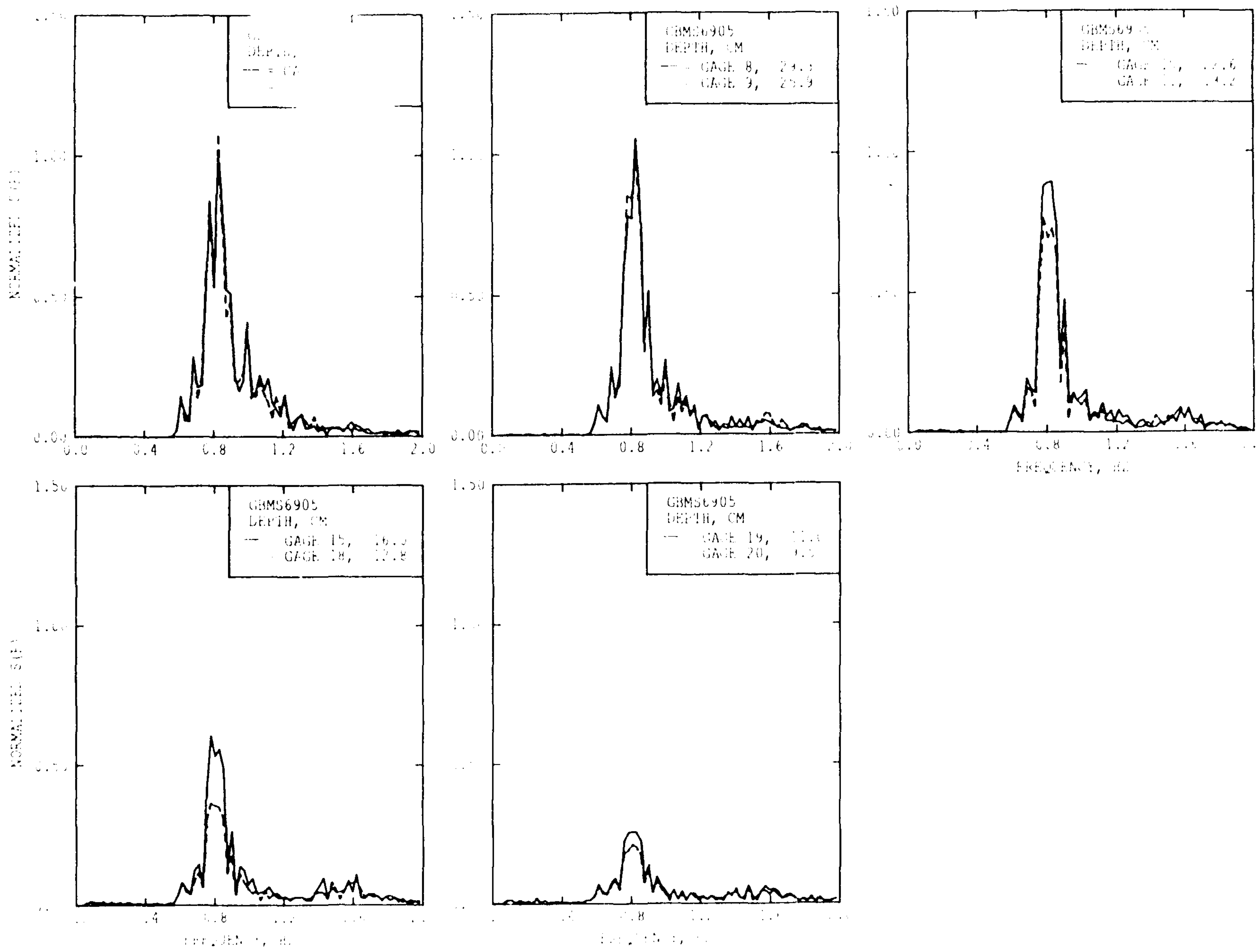

GBMS3705
DEPTH, CM
GAGE 8,
GAGE 9,
GAGE 15, 16.0
GAGE 18, 12.8
GAGE 19, 11.0
GAGE 20, 9.5
FREQUENCY, HZ
1.50
0.50
0.00
0.0
0.4
0.8
1.2
1.6
2.0

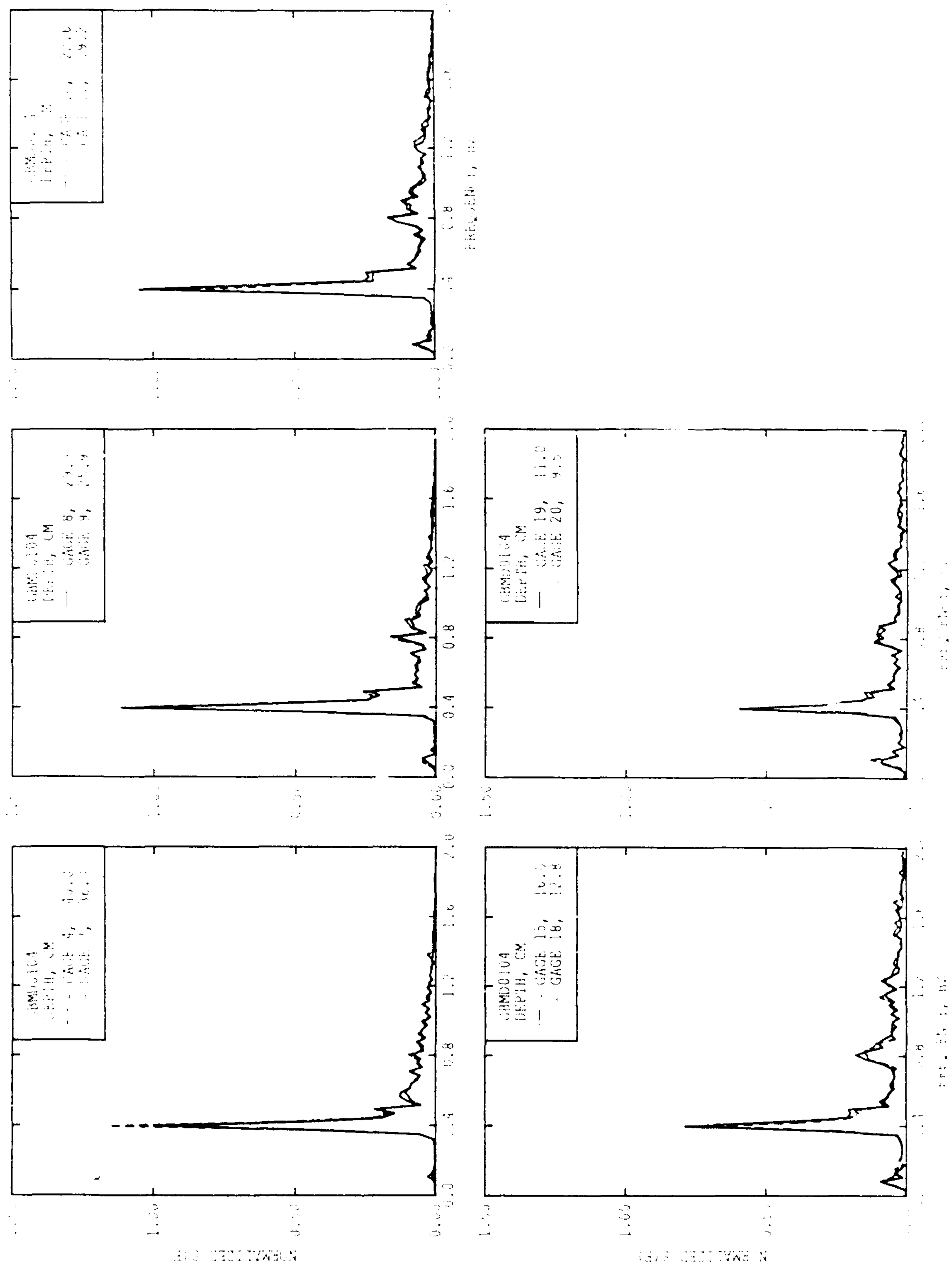

GBMS4505
DEPTH, CM
GAGE 15, 16.0
GAGE 18, 12.8
GAGE 19
GAGE 20
FREQUENCY, HZ
NORMALIZED S(F)

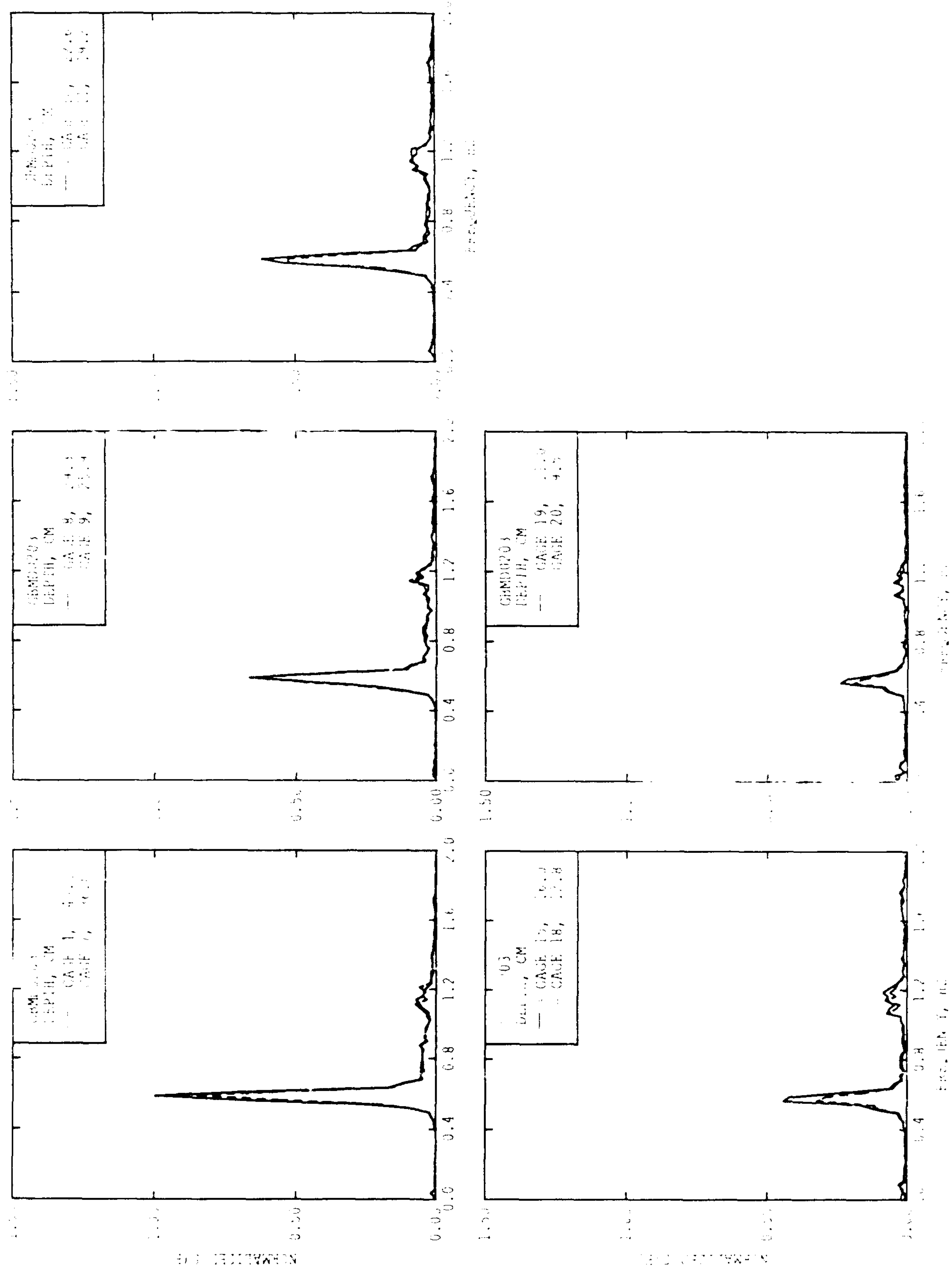


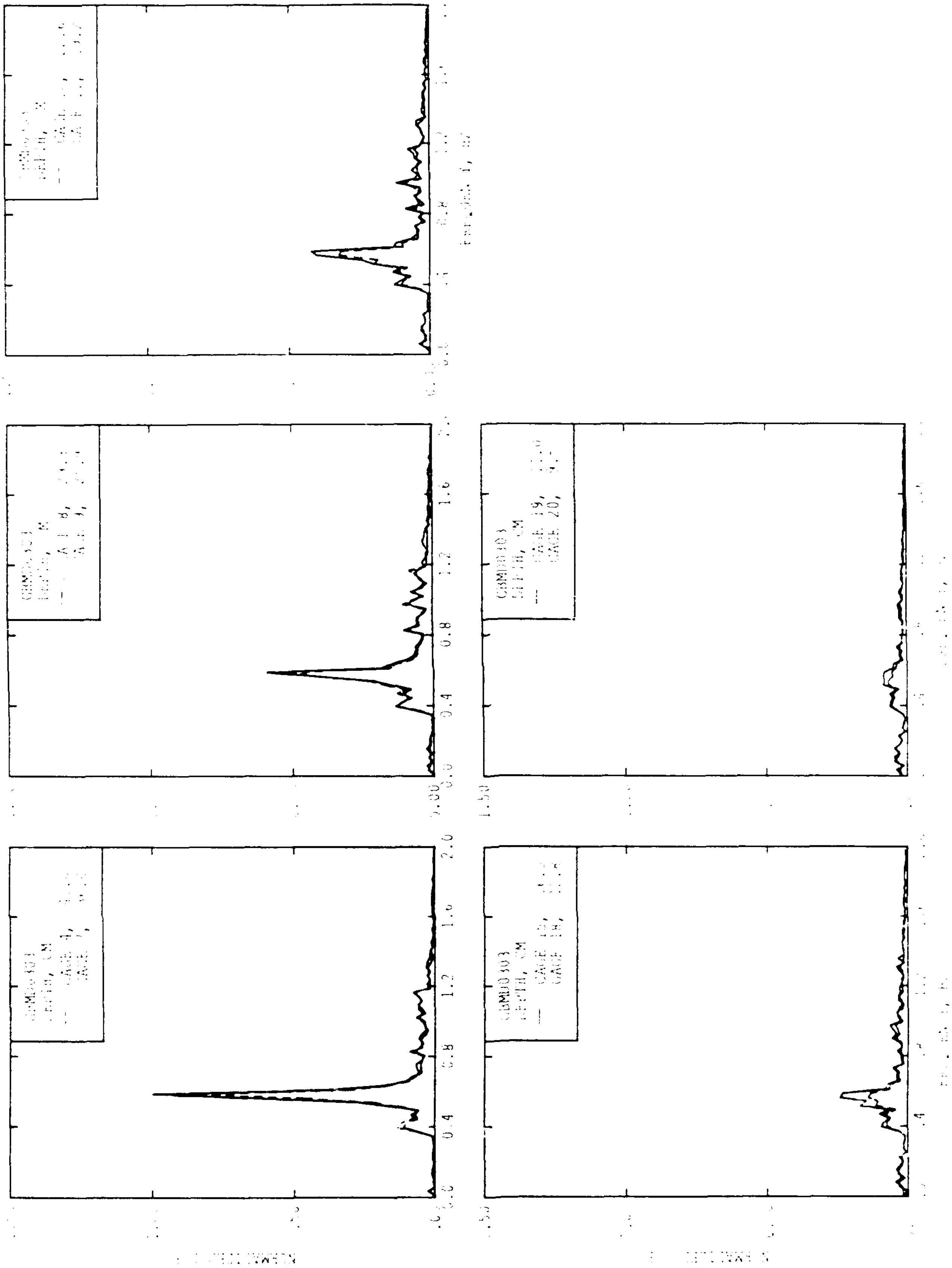

GBMS5705
DEPTH, CM
FREQUENCY, HZ

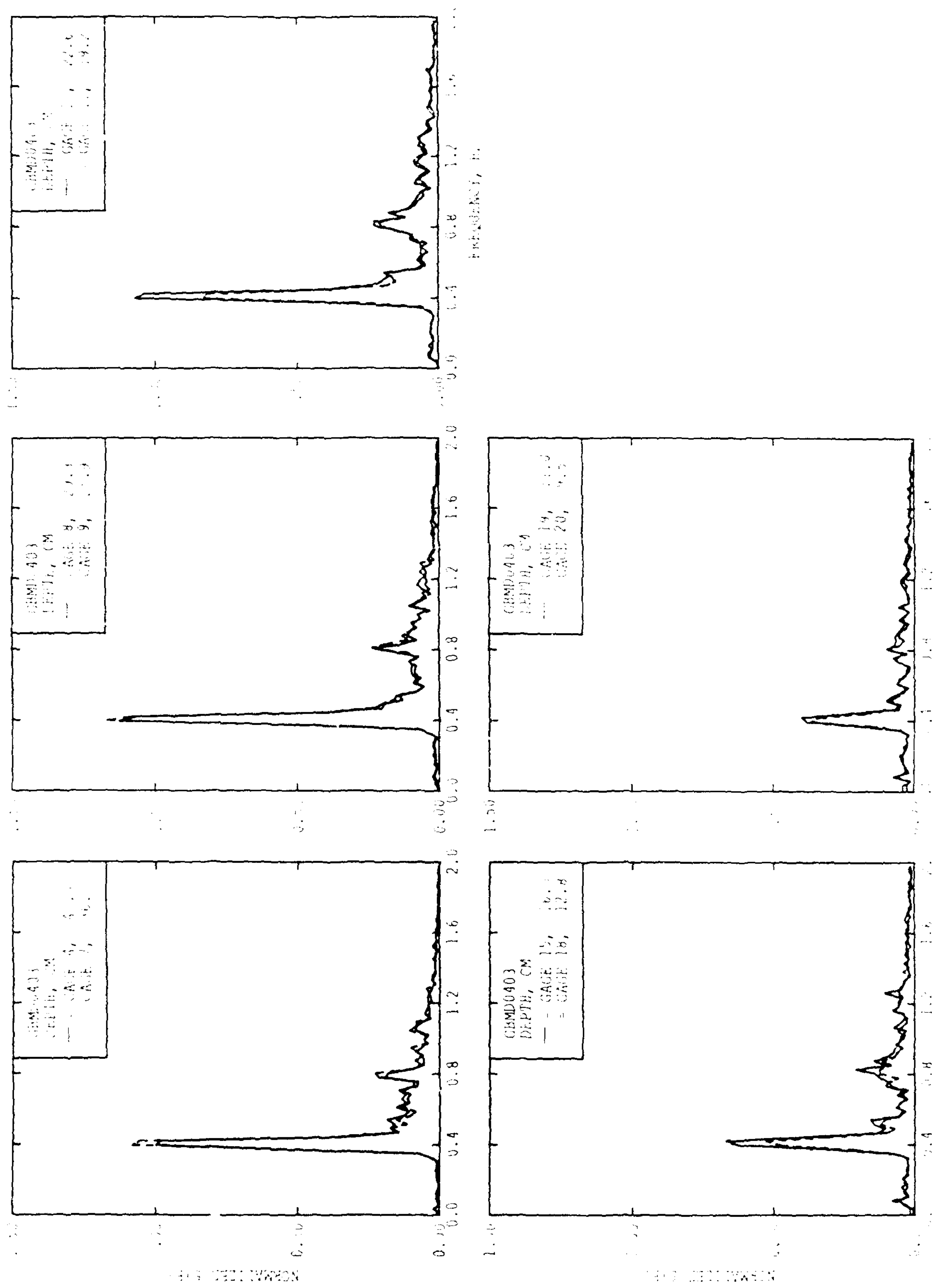


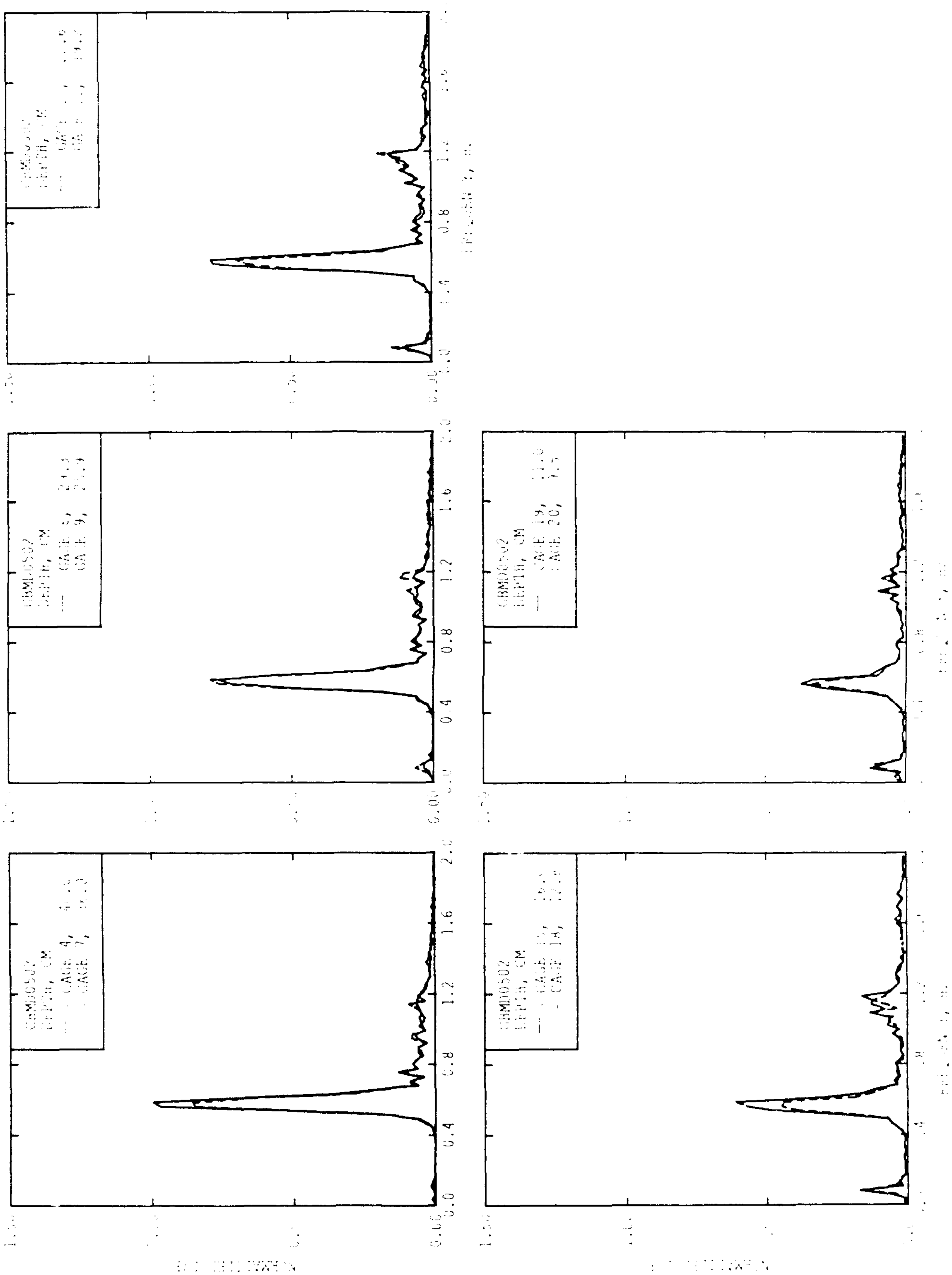

GBMS6905
DEPTH, CM
GAGE 8, 24.3
GAGE 9, 25.9
GBMS6905
DEPTH, CM
GAGE 15, 16.3
GAGE 18, 17.8
GBMS6905
DEPTH, CM
GAGE 19,
GAGE 20,
FREQUENCY, HZ
NORMALIZED S(f)

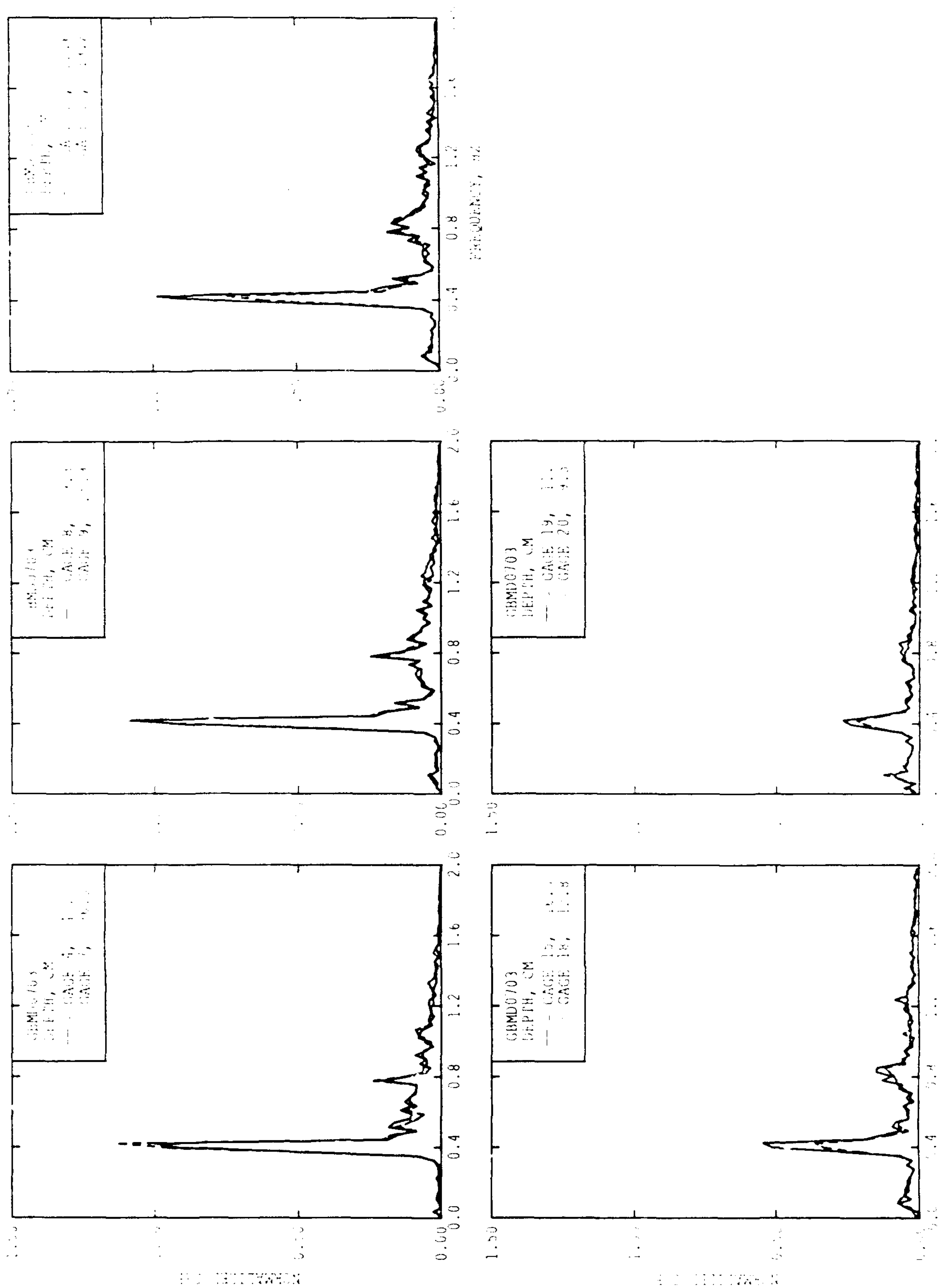

CBMD0104
DEPTH, CM
GAGE 15, 16.6
GAGE 18, 17.8
CBMD0104
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
CBMD0104
DEPTH, CM
GAGE 8
GAGE 9
NORMALIZED S(F)
FREQUENCY, HZ

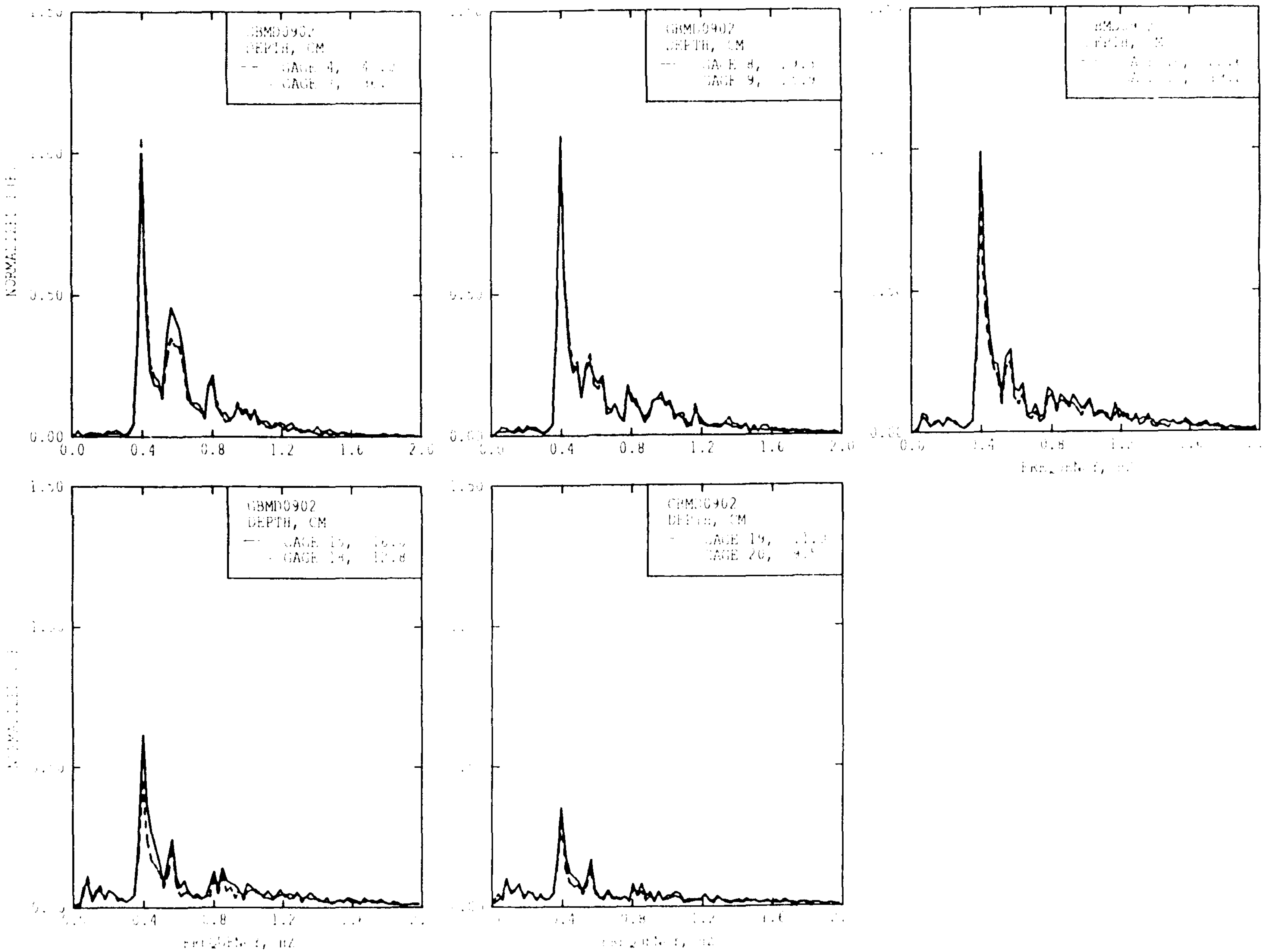

DEPTH, CM
0.4
0.8
1.2
1.6
2.0
0.00
0.50
1.50

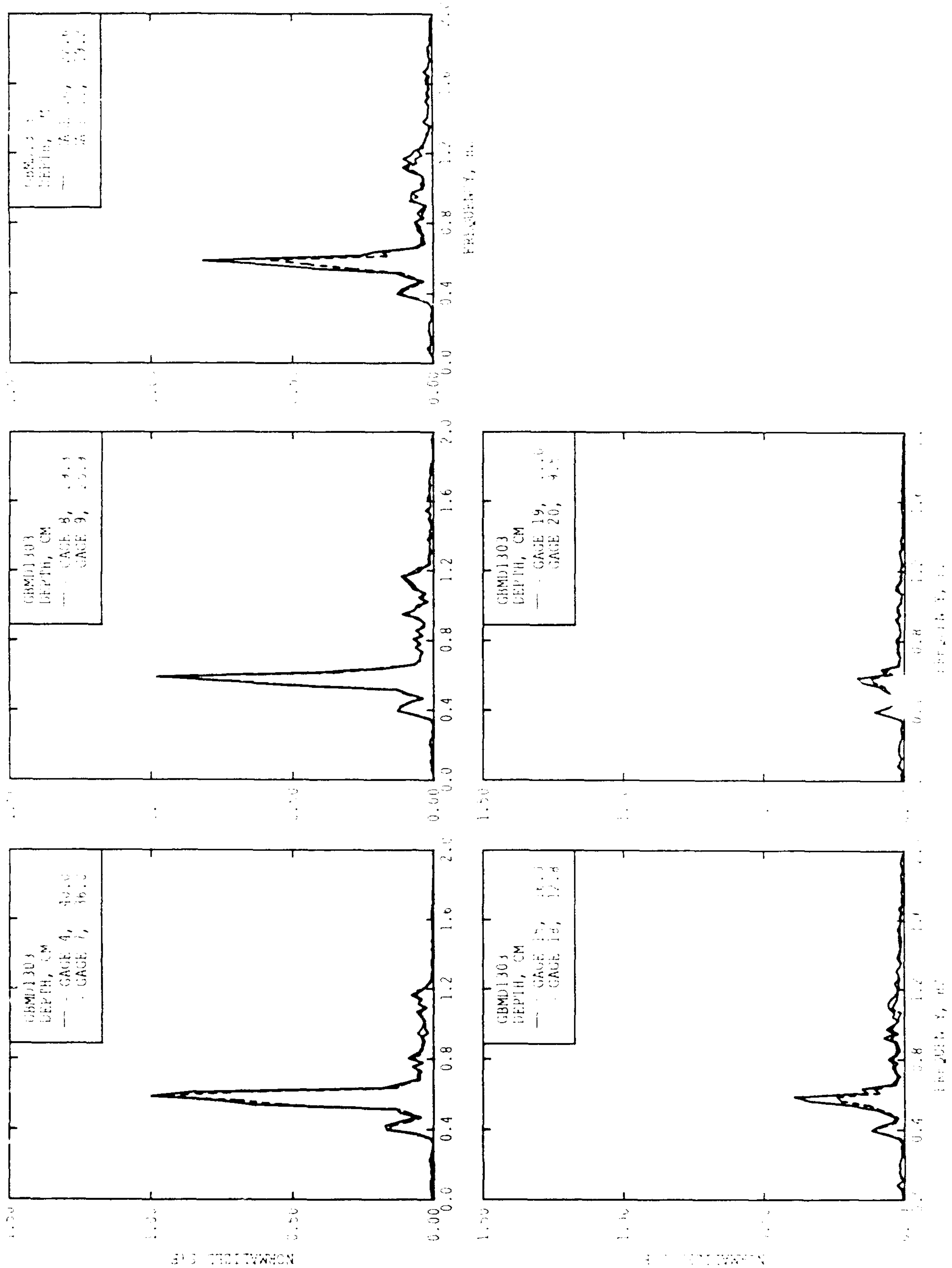



GBMD0403
DEPTH, CM
GAGE 17, 16.
GAGE 18, 12.8
0.0
0.4
0.8
1.2
1.6
2.0
0.00




GBMD0703
DEPTH, CM
GAGE 19,
GAGE 20,
GAGE 15,
GAGE 16,
FREQUENCY, HZ


GBMD0902
DEPTH, CM
GBMD0902
DEPTH, CM
GBMD0902
DEPTH, CM
GAGE 19,
GAGE 20,
0.00
0.50
1.50
0.0
0.4
0.8
1.2
1.6
2.0


GBMD1303
DEPTH, CM
GAGE 4,
GAGE 7,
GAGE 8,
GAGE 9,
GAGE 15,
GAGE 18,
GAGE 19,
GAGE 20,
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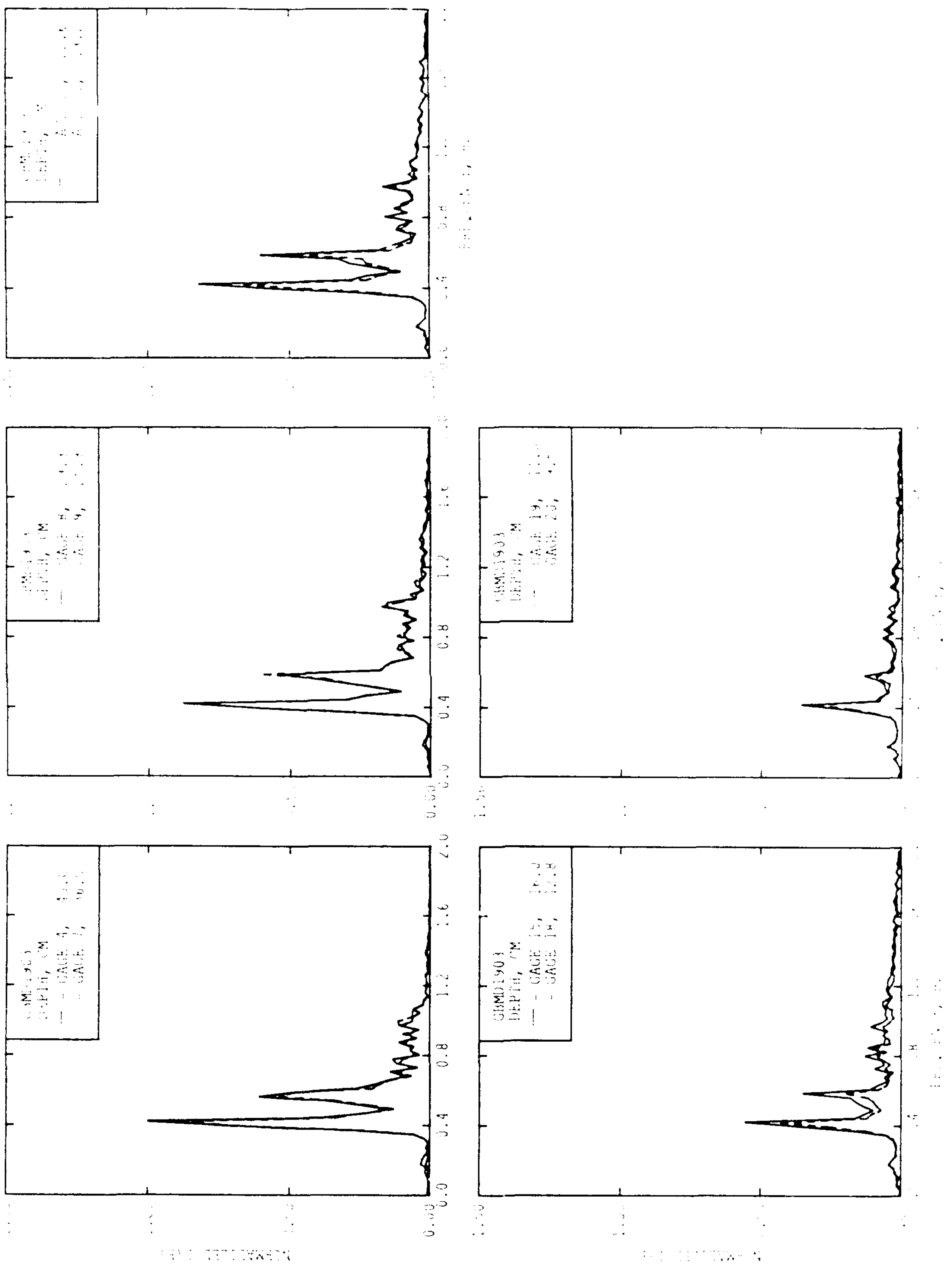
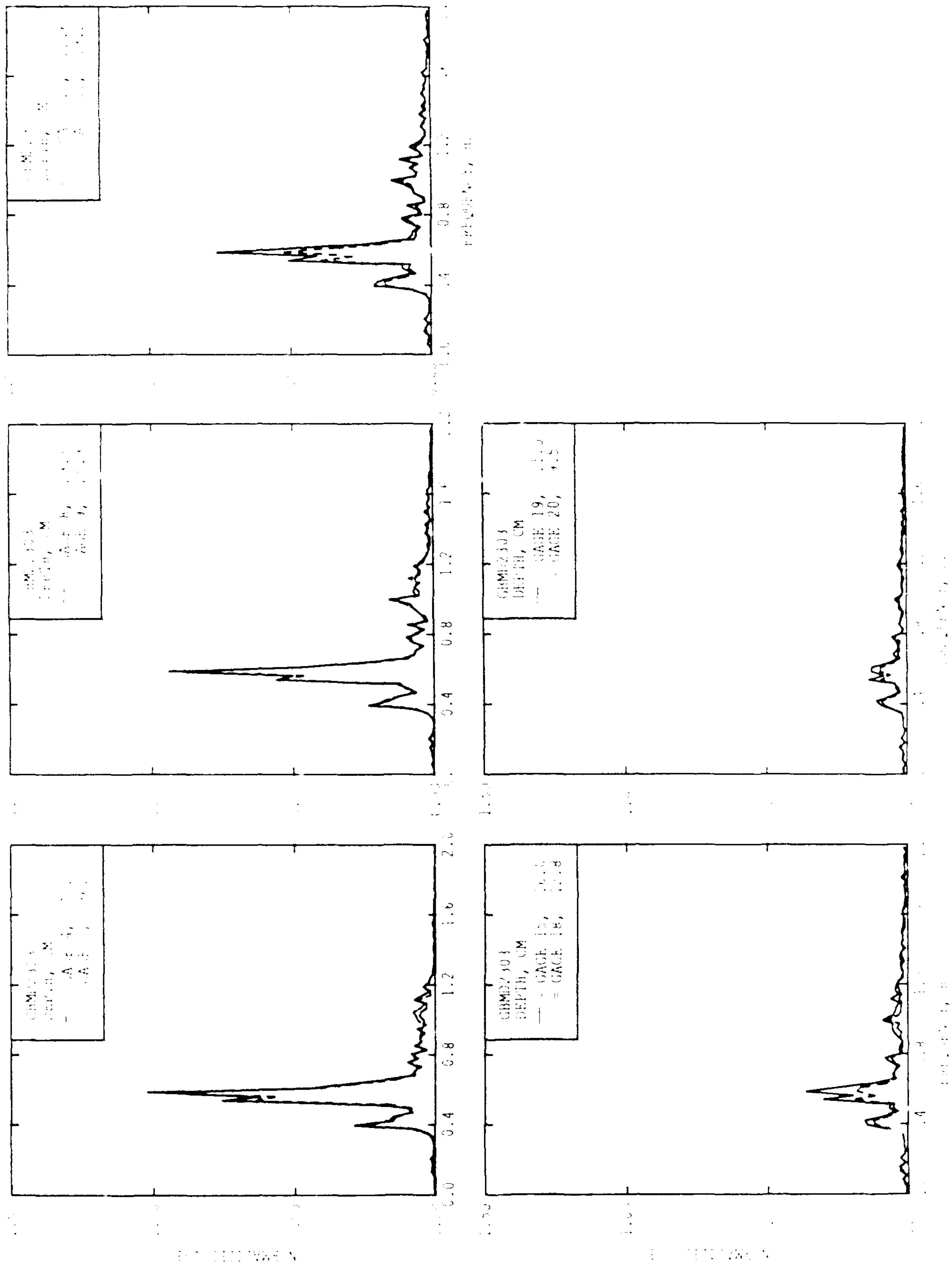
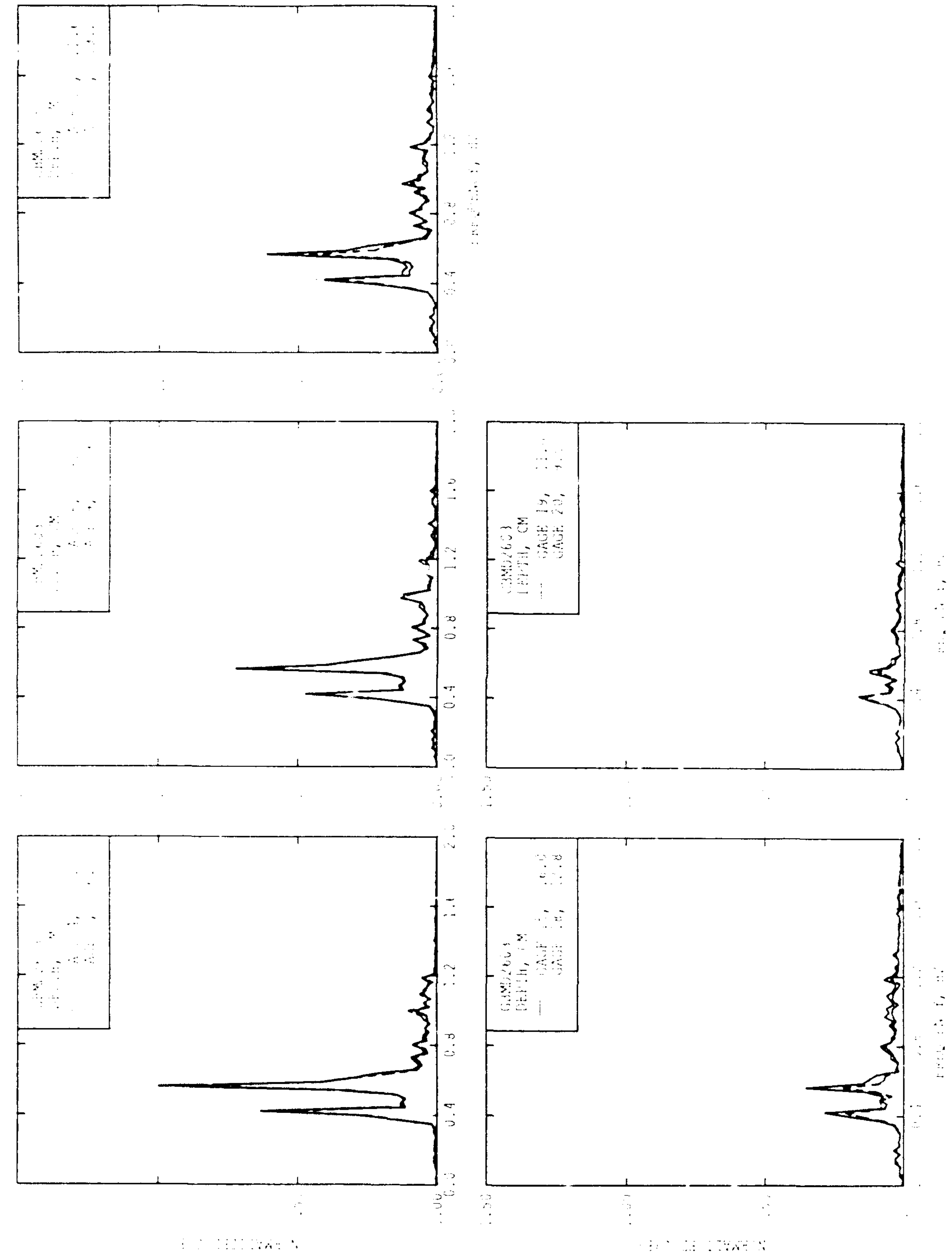
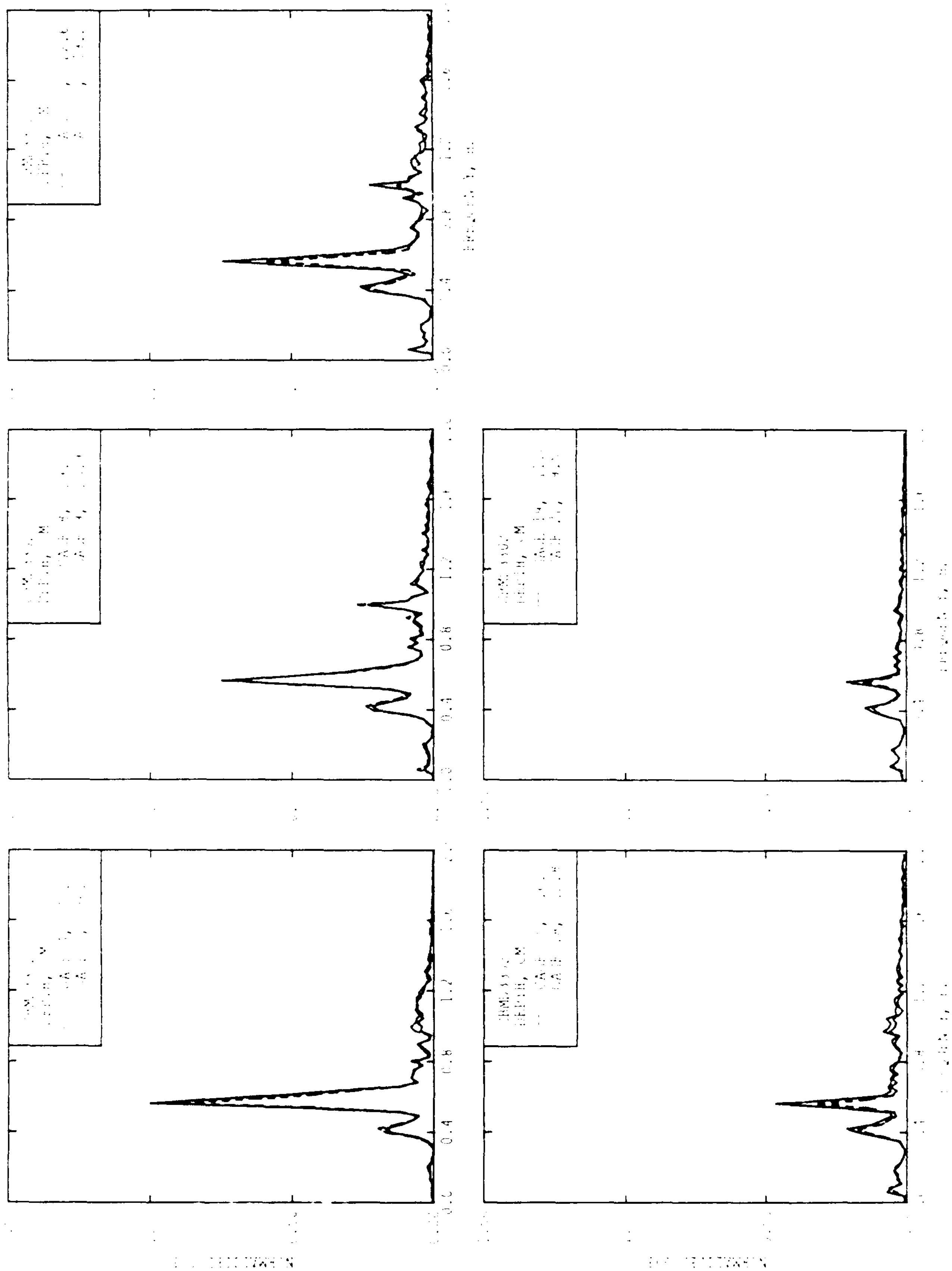
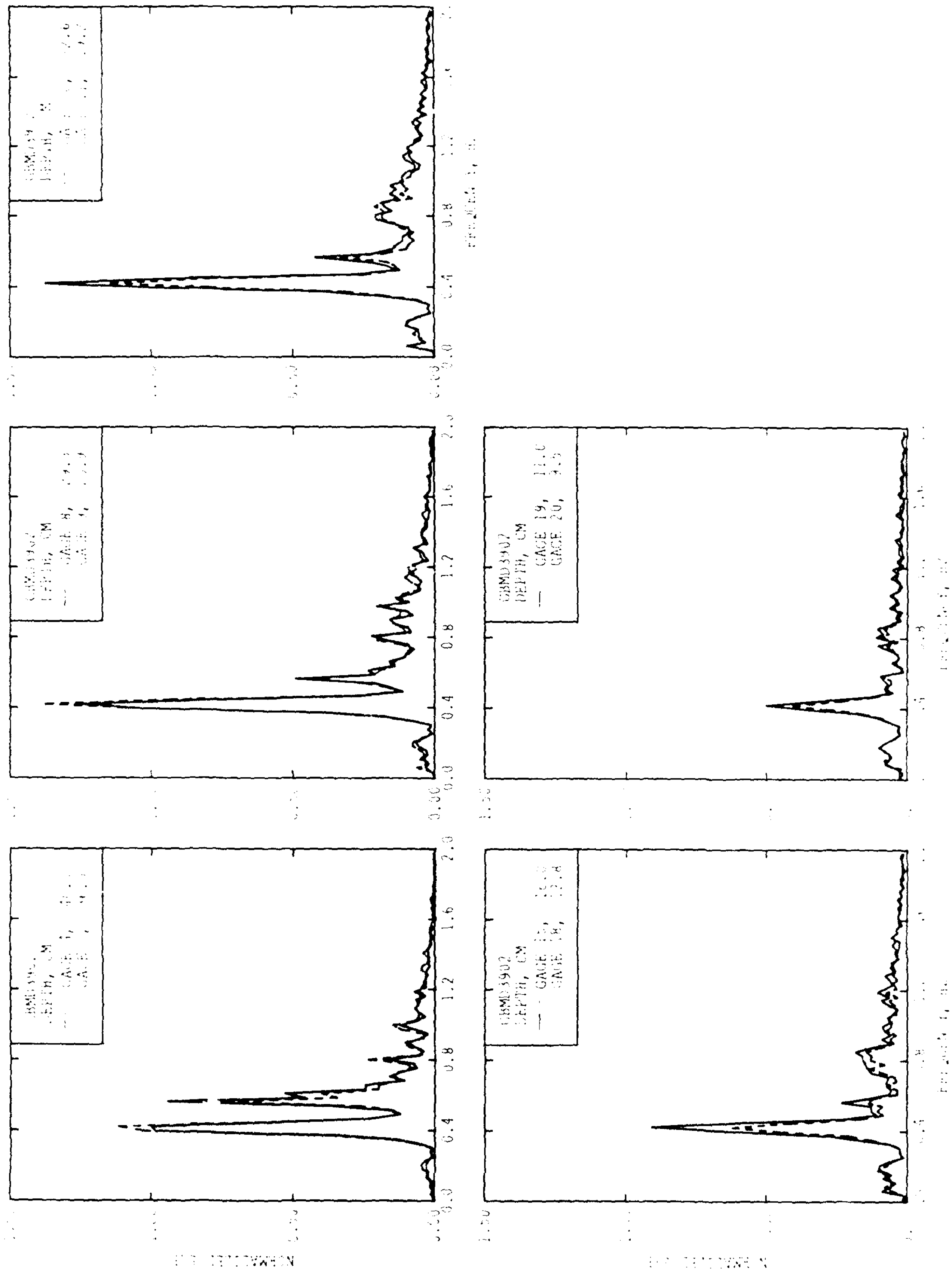
0.4
0.8
1.2
1.6
2.0
0.00
0.50
1.00
1.50

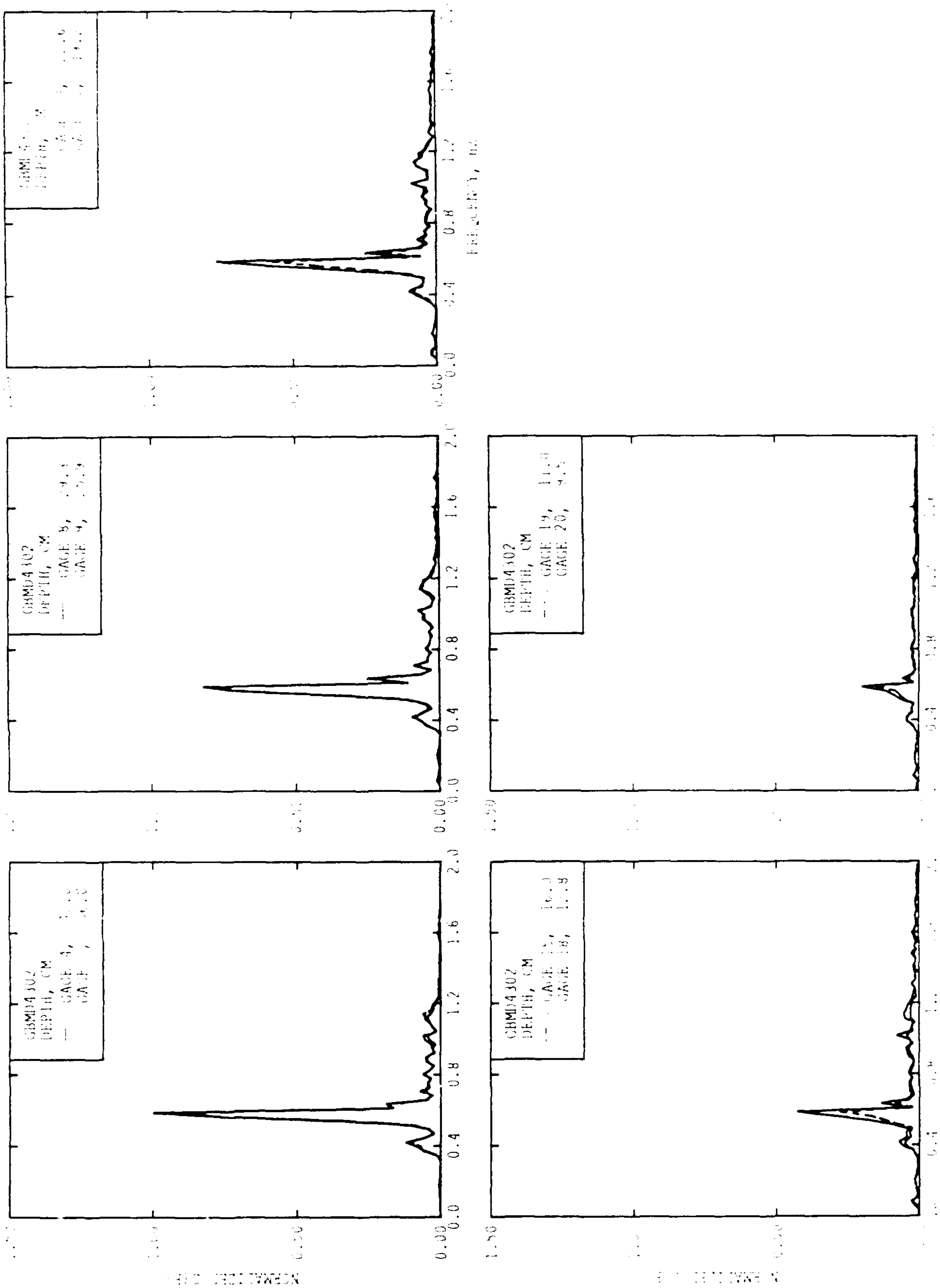

GBMD1903
DEPTH, CM
GAGE 15,
GAGE 16, 17.8
GBMD1903
DEPTH, CM
GAGE 19,
GAGE 20,
DEPTH, CM
GAGE 4,
GAGE 7,
DEPTH, CM
GAGE 8,
GAGE 9,
0.0
0.4
0.8
1.2
1.6
2.0
0.00
1.50










GBMD4302
DEPTH, CM
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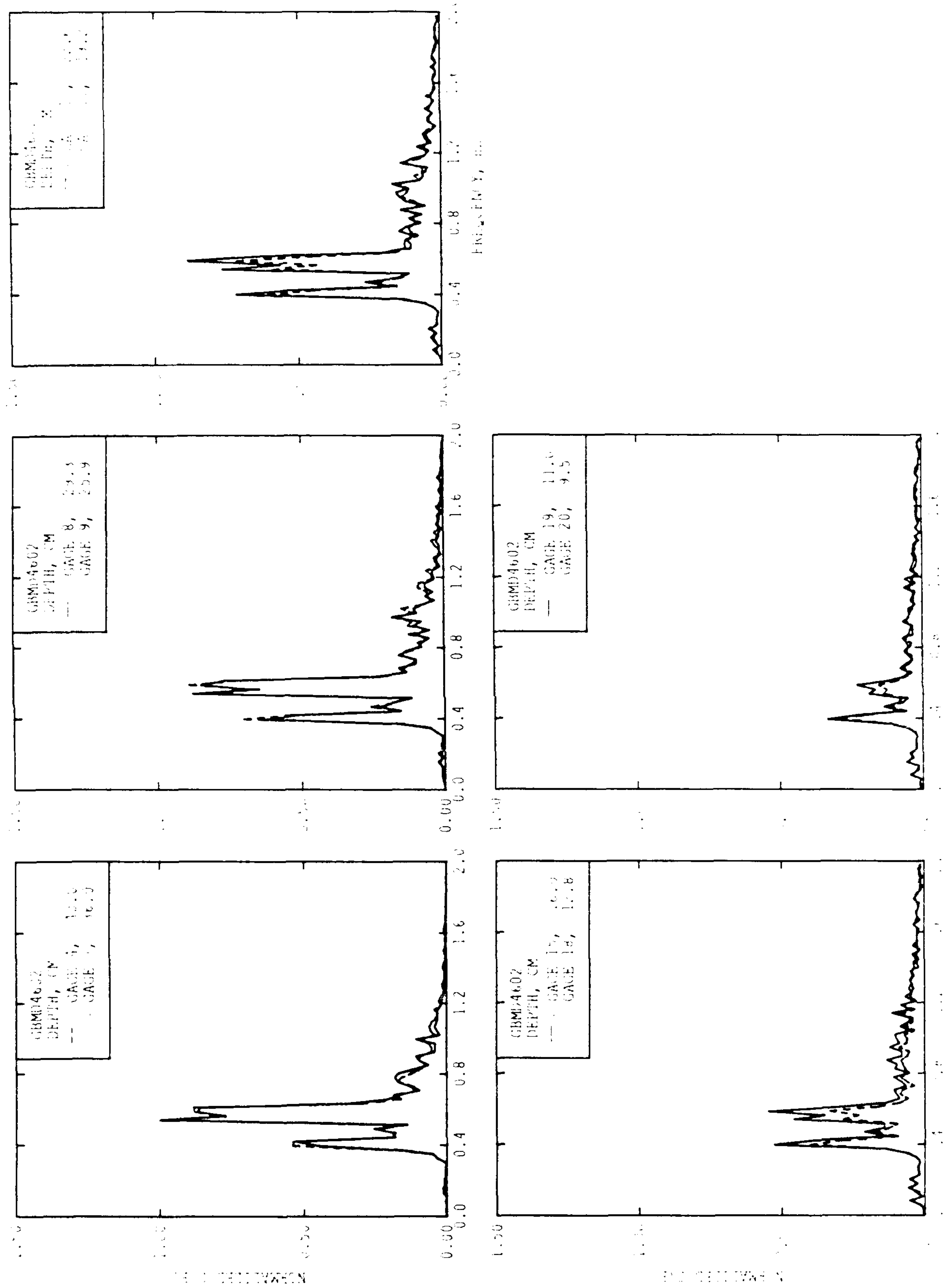
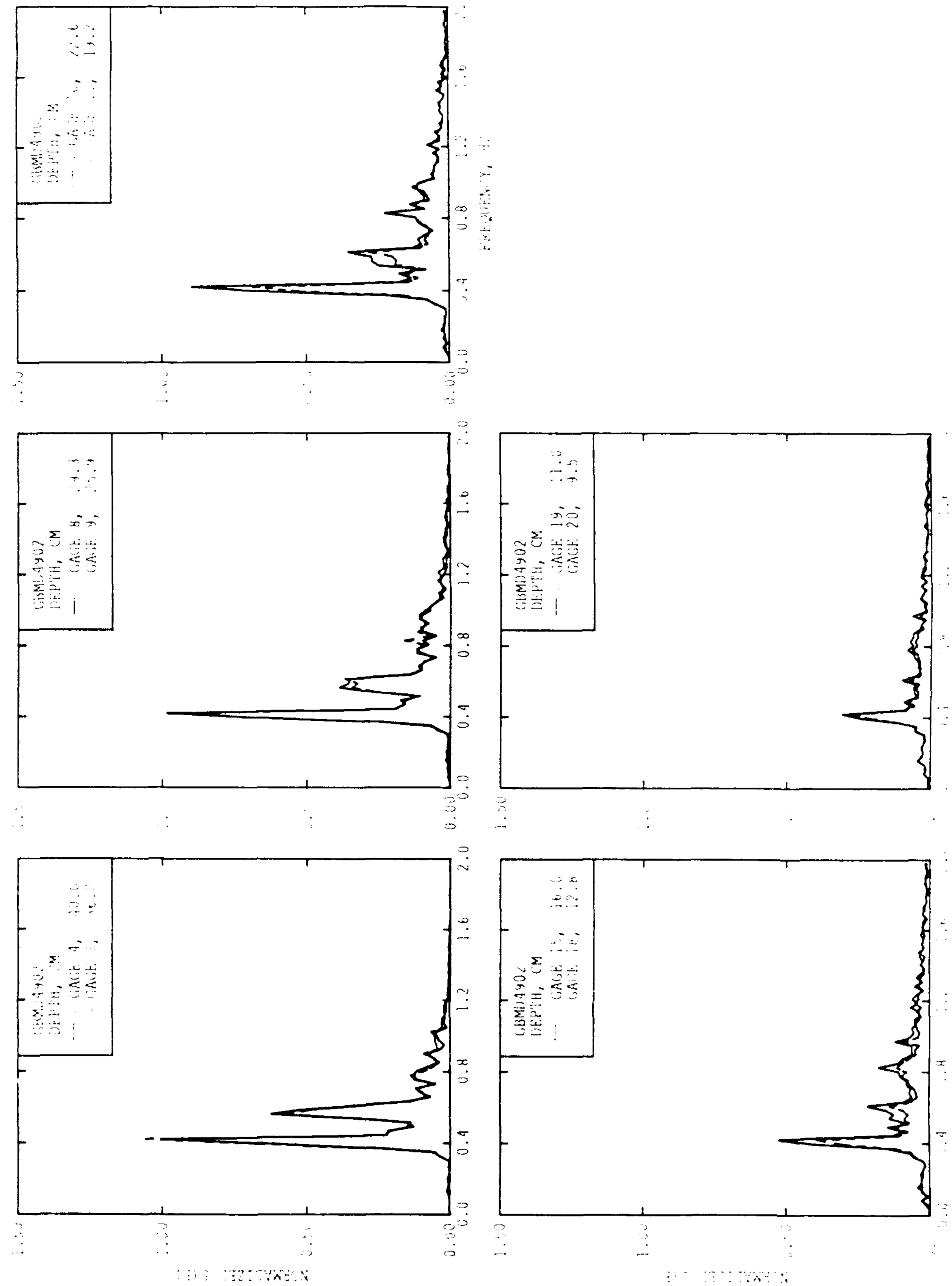
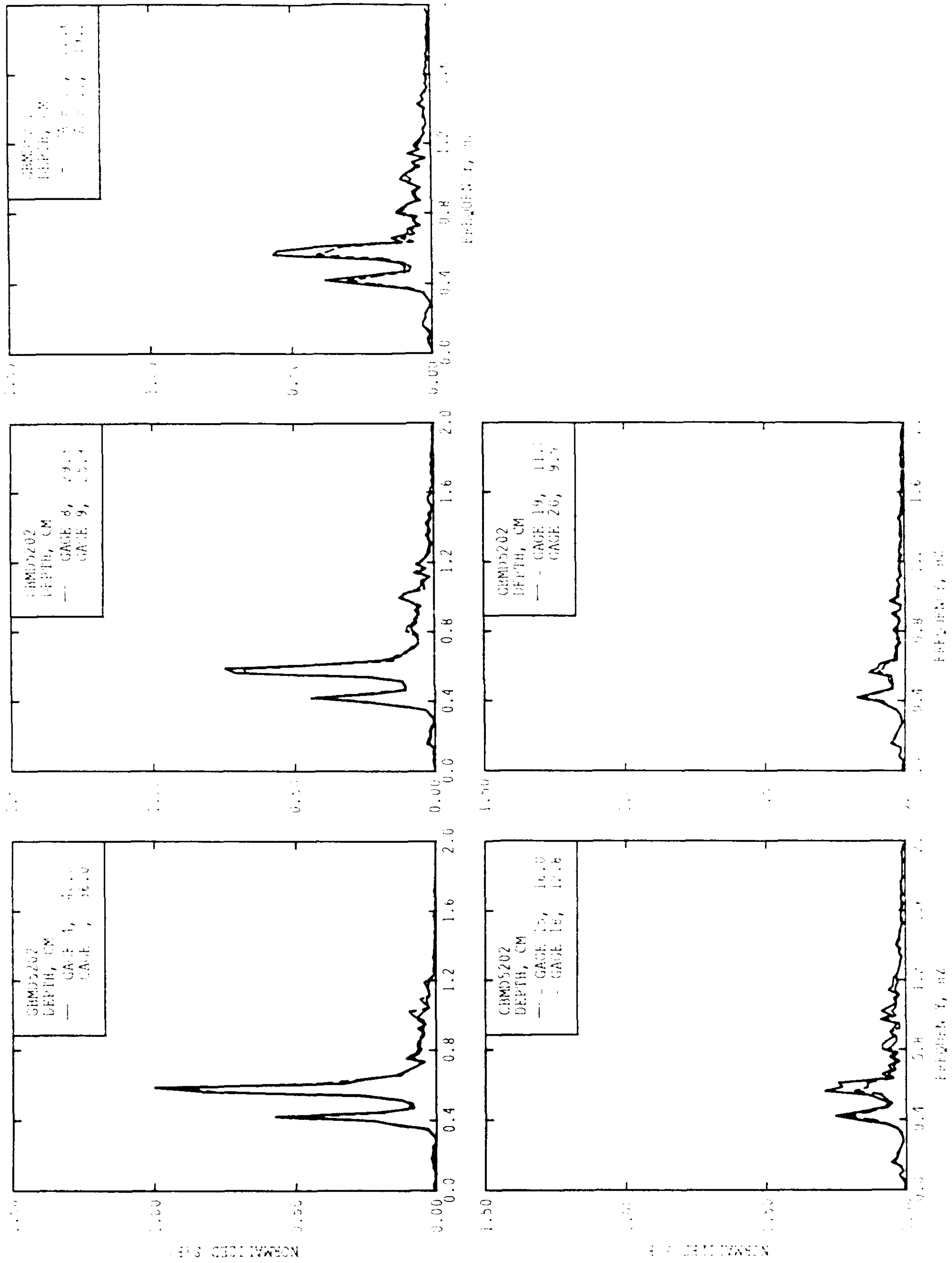
GAGE 20, 9.5
FREQUENCY, HZ


GBMD4602
DEPTH, CM
GAGE 8, 23.3
GAGE 9, 25.9
GBMD4602
DEPTH, CM
GAGE 19, 11.6
GAGE 20, 9.5


GBMD4902
DEPTH, CM
GAGE 8,
GAGE 9,
GAGE 19, 11.6
GAGE 20, 9.5
0.0
0.4
0.8
1.2
1.6
2.0
0.00
1.50


CBMD5202
DEPTH, CM
GAGE 8
GAGE 9
GAGE 19
GAGE 26
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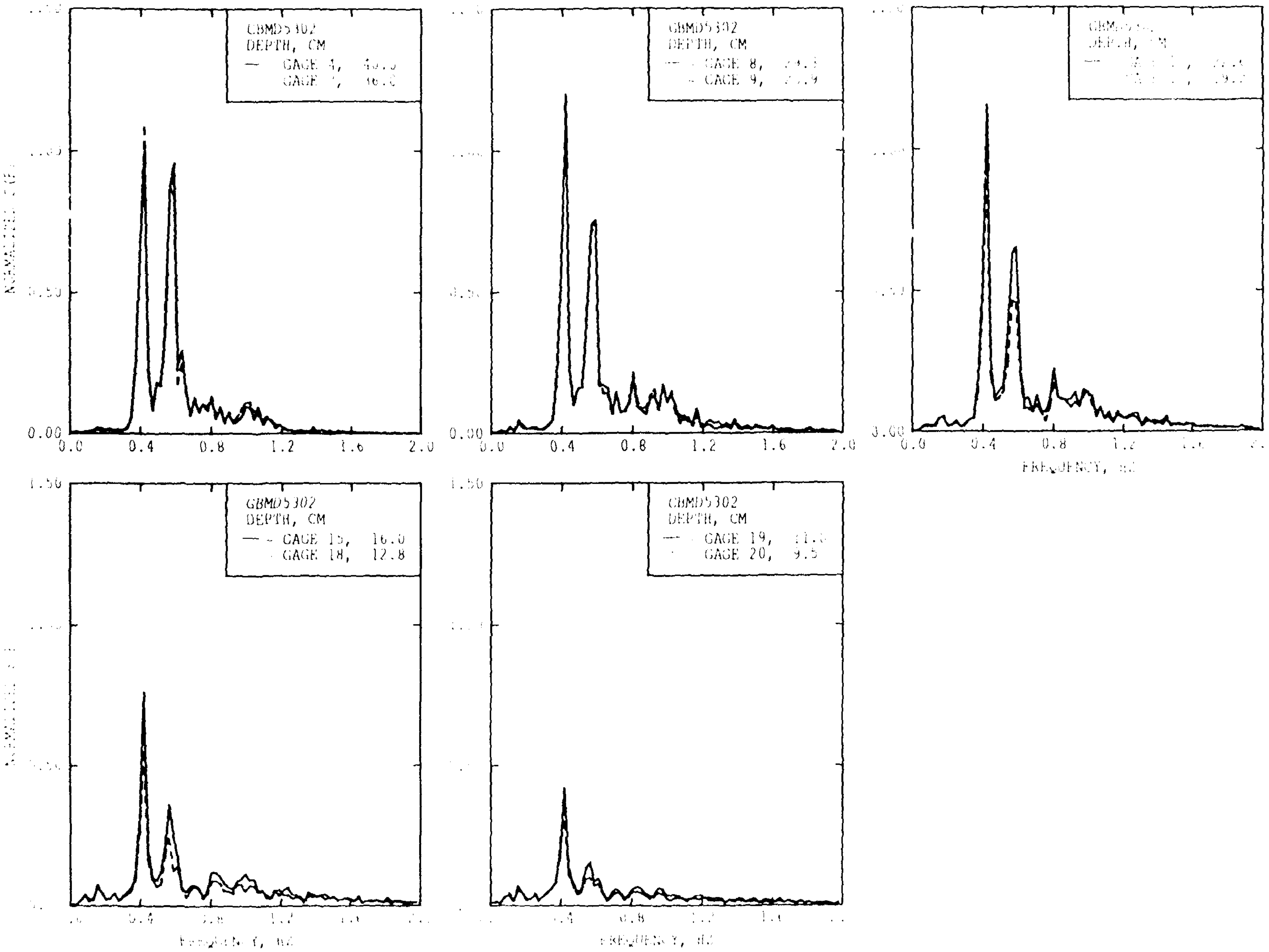
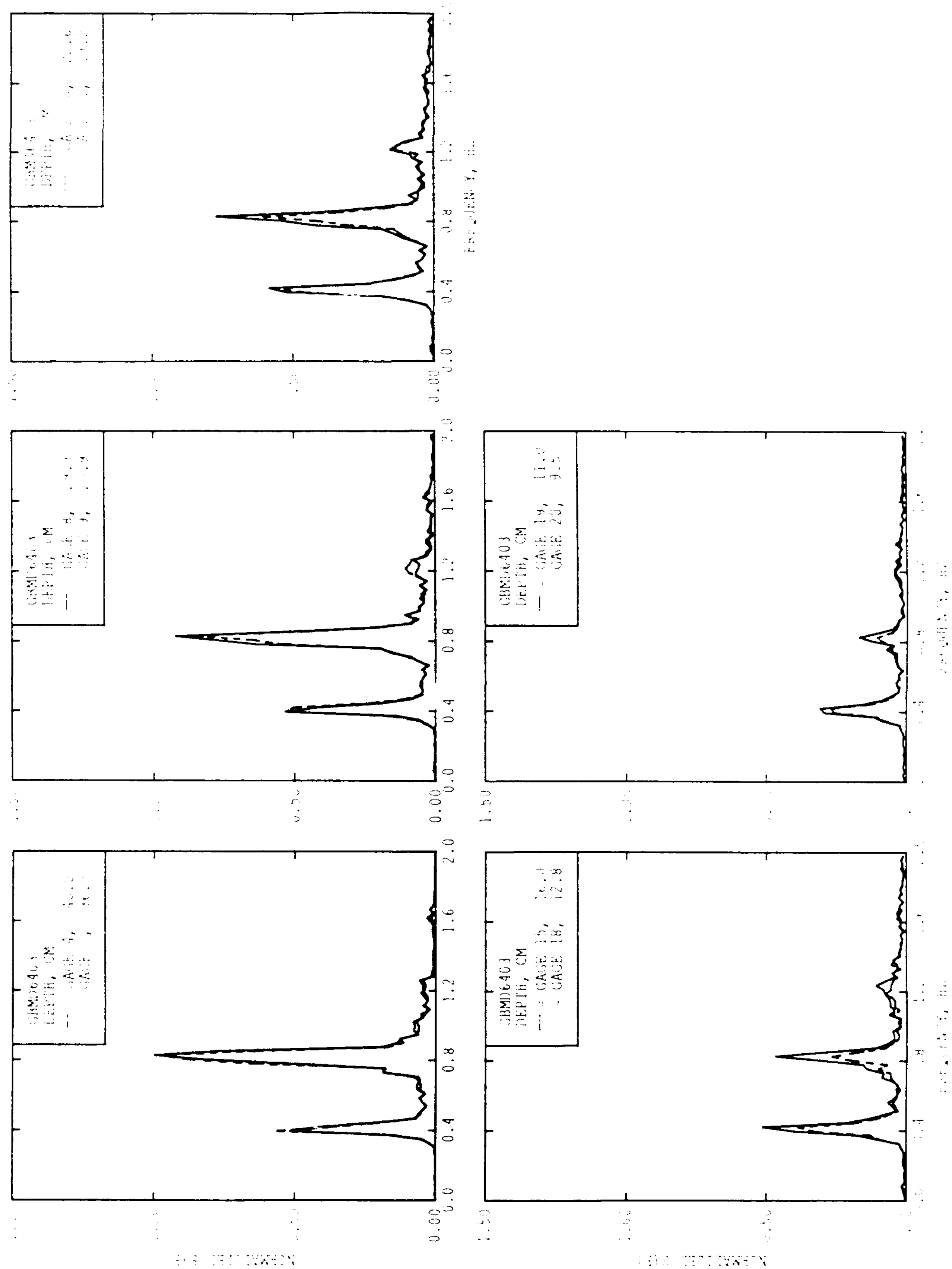
0.4
0.8
1.2
1.6
2.0
1.50
0.00



GBMD5302
DEPTH, CM
GAGE 8,
GAGE 9,
GBMD5302
DEPTH, CM
GAGE 15, 16.0
GAGE 18, 12.8
GBMD5302
DEPTH, CM
GAGE 19,
GAGE 20, 9.5
FREQUENCY, HZ



GBMD6403
DEPTH, CM
GAGE 15, 14.3
GAGE 18, 12.8
GBMD6403
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
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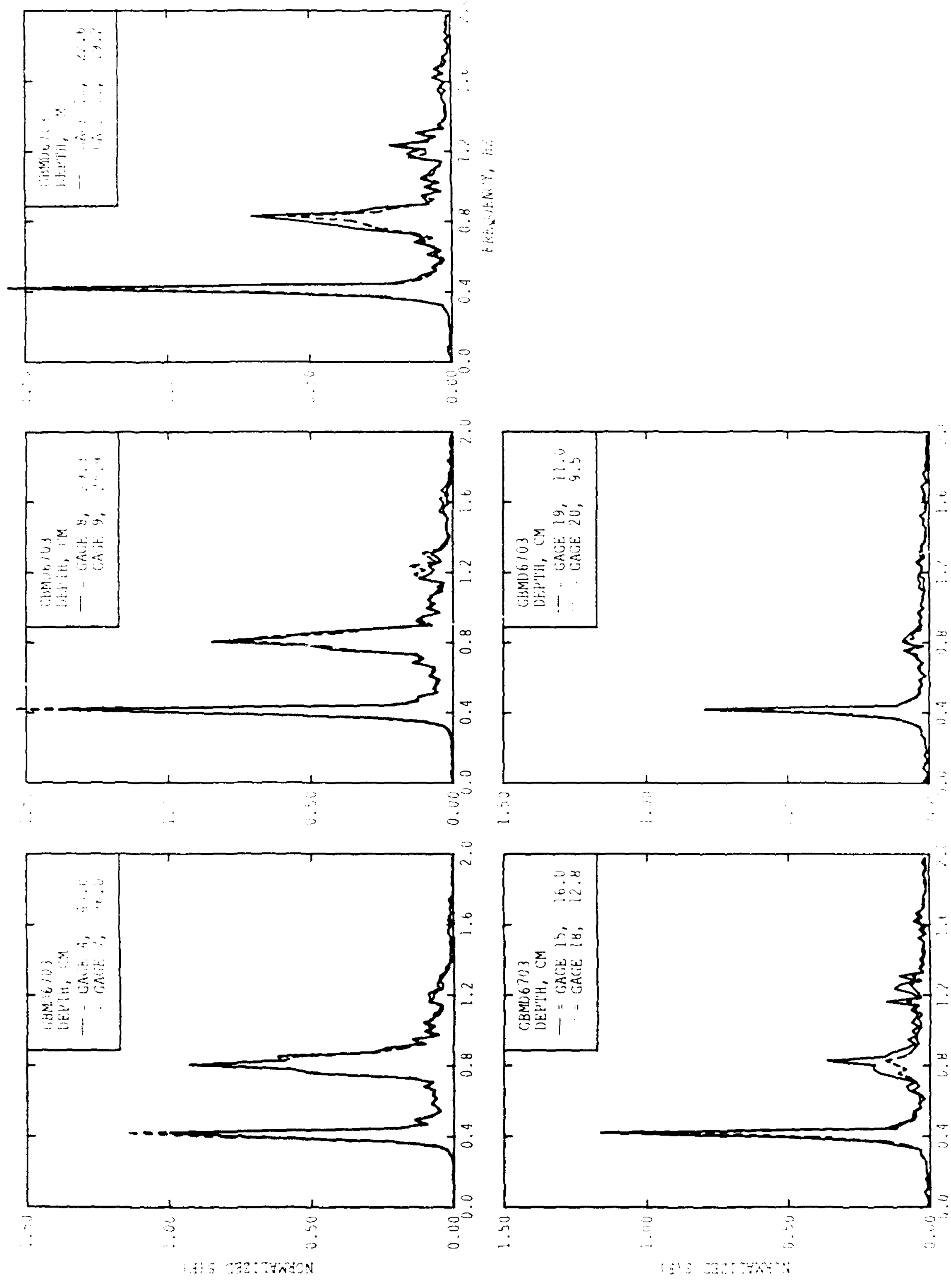
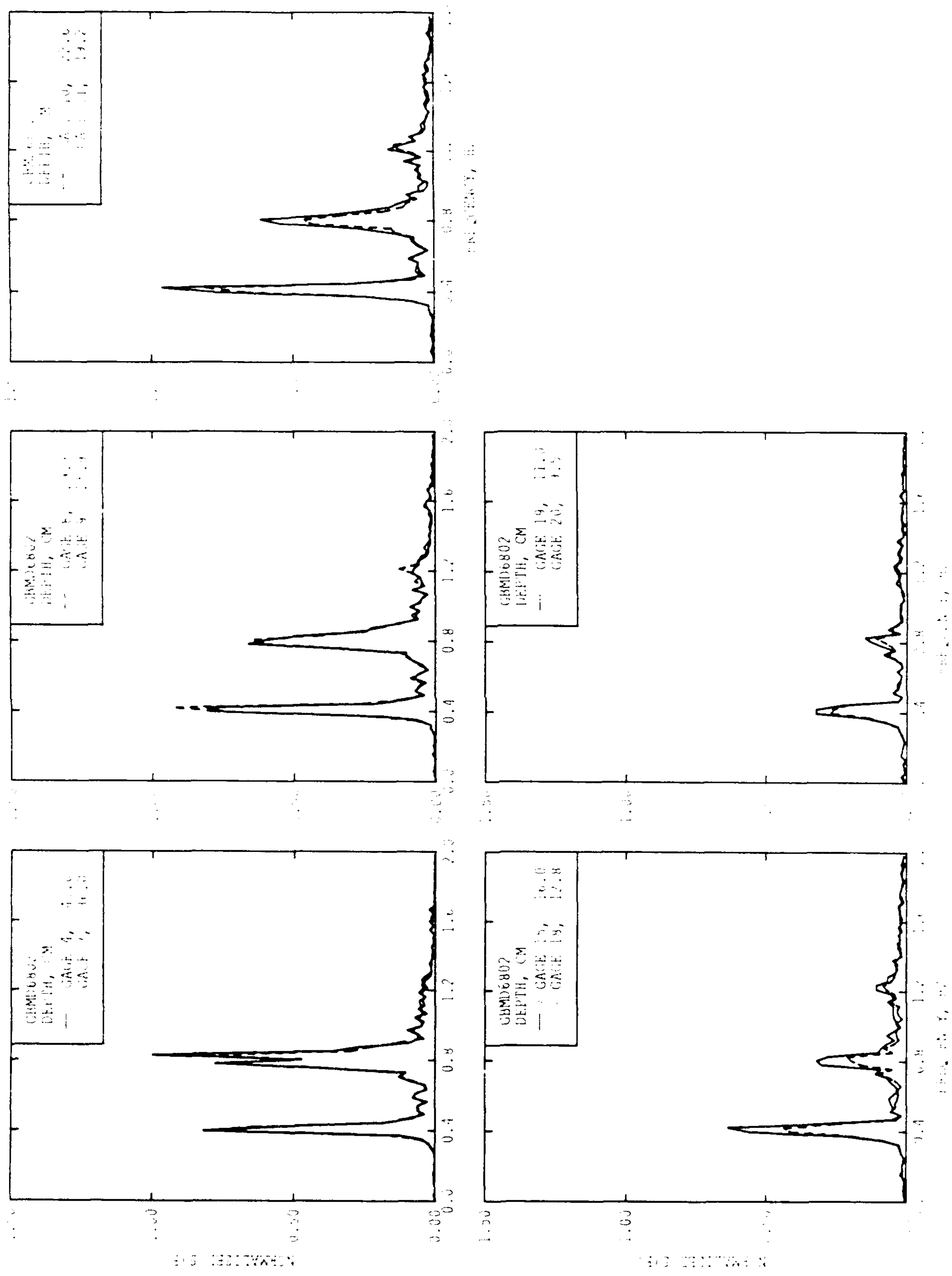
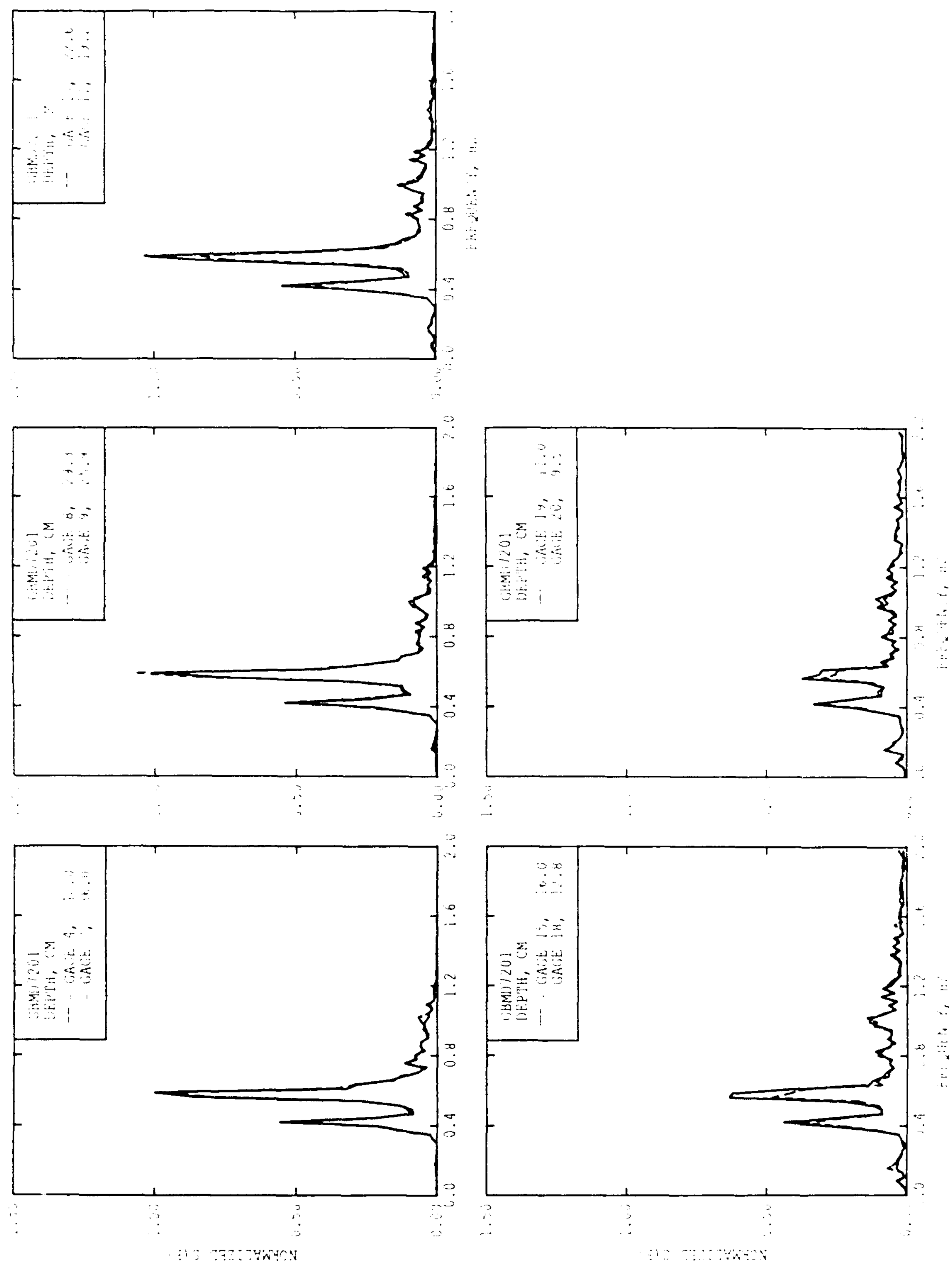
0.4
0.8
1.2
1.6
2.0
0.00
0.50
1.50


GBMD6703
DEPTH, CM
GAGE 15, 16.0
GAGE 18, 12.8
GAGE 19
GAGE 20, 9.5
NORMALIZED S(f)
FREQUENCY, HZ


GBMD6802
DEPTH, CM
GAGE 15, 16.0
GAGE 18, 12.8
GAGE 19
GAGE 20
NORMALIZED


GBMD7201
DEPTH, CM
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GAGE 18, 17.8
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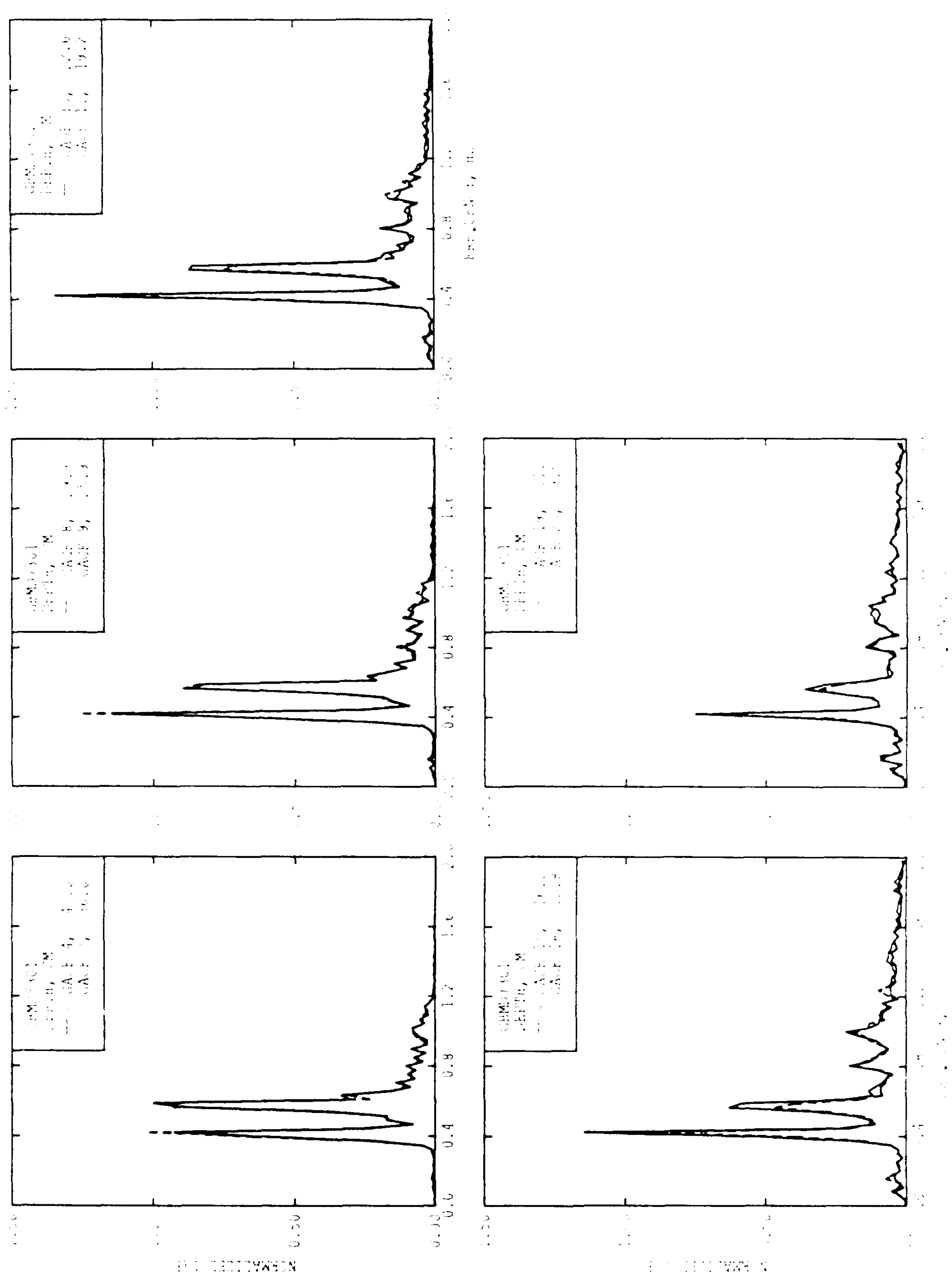
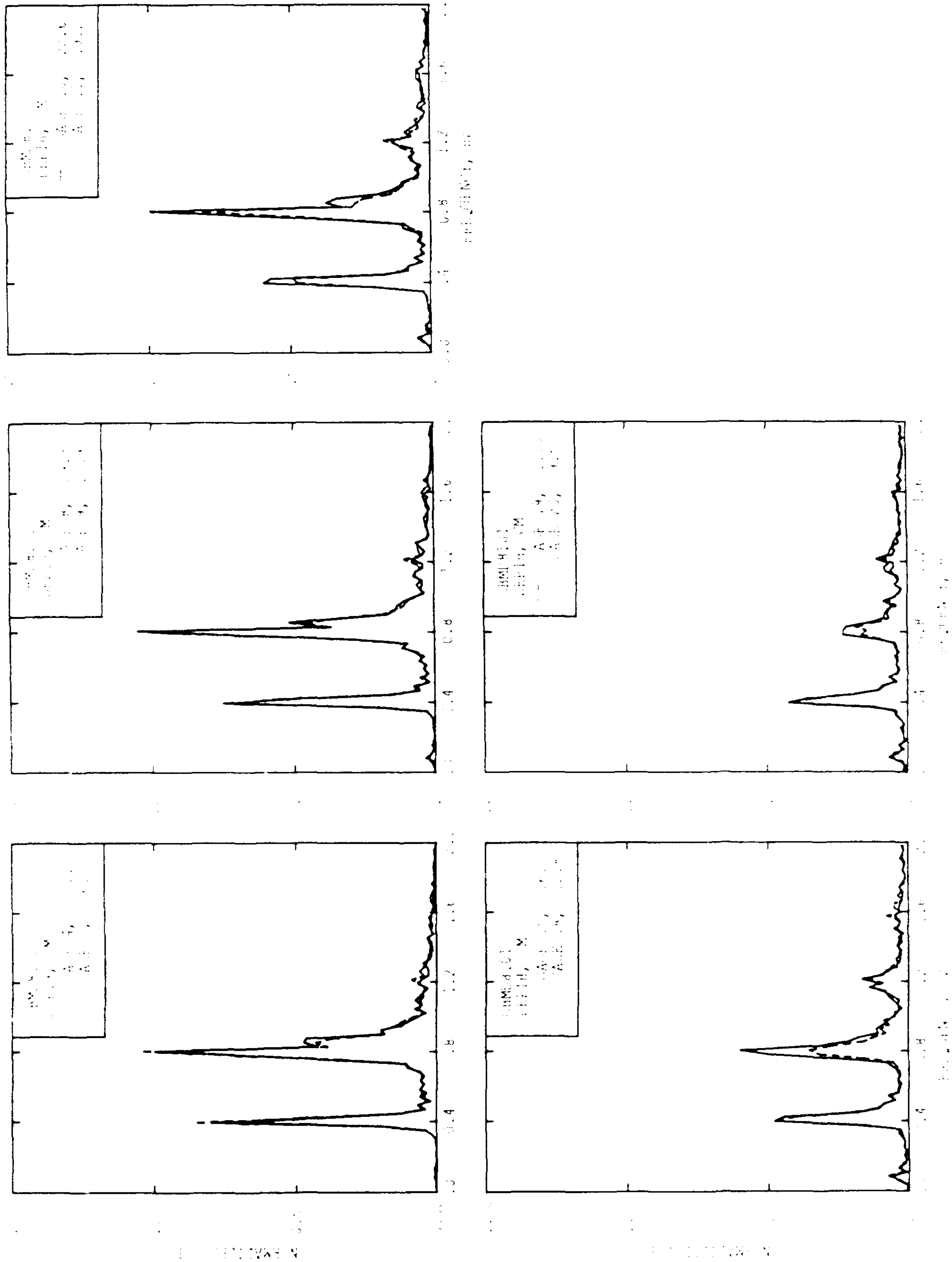
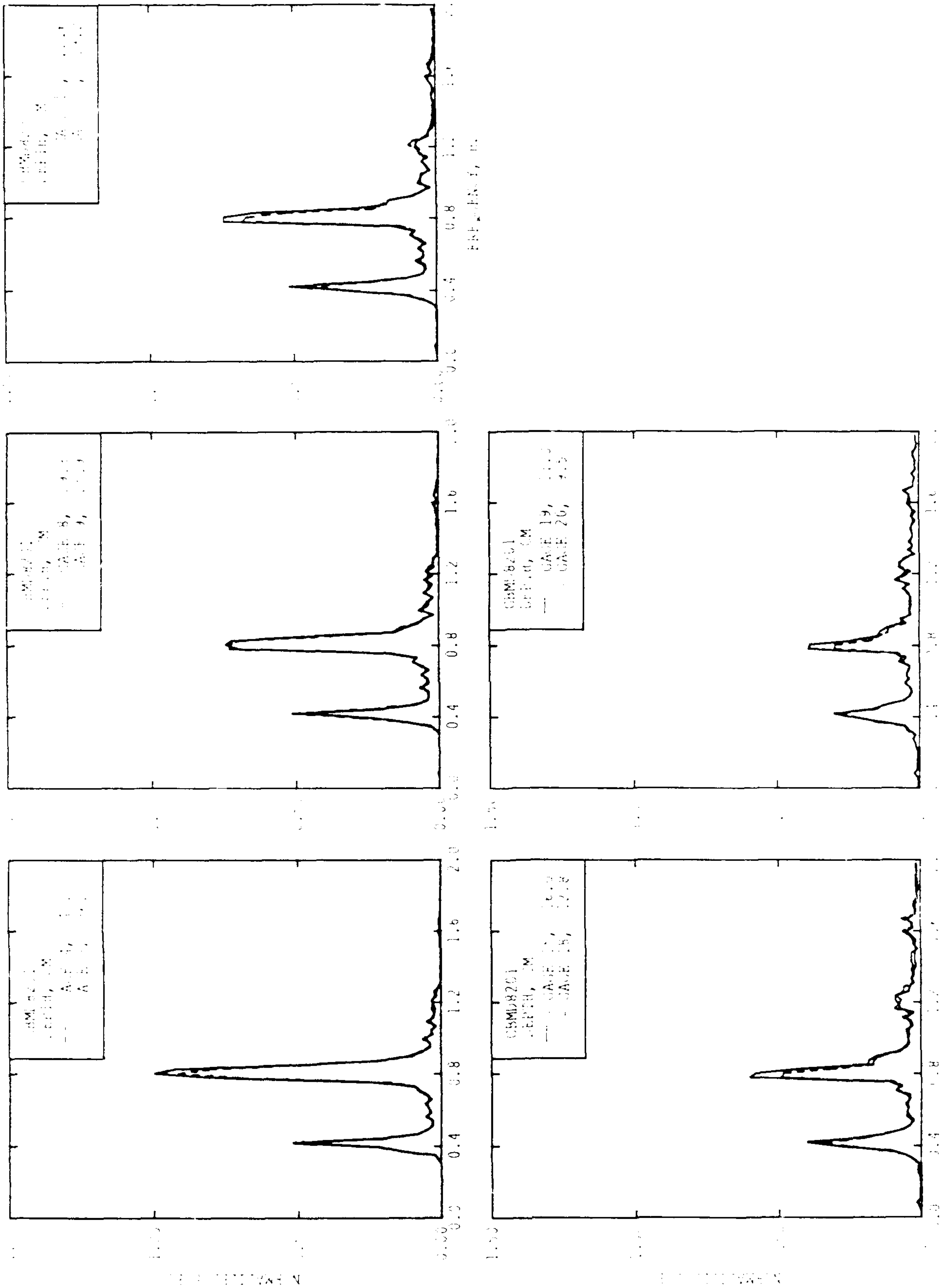
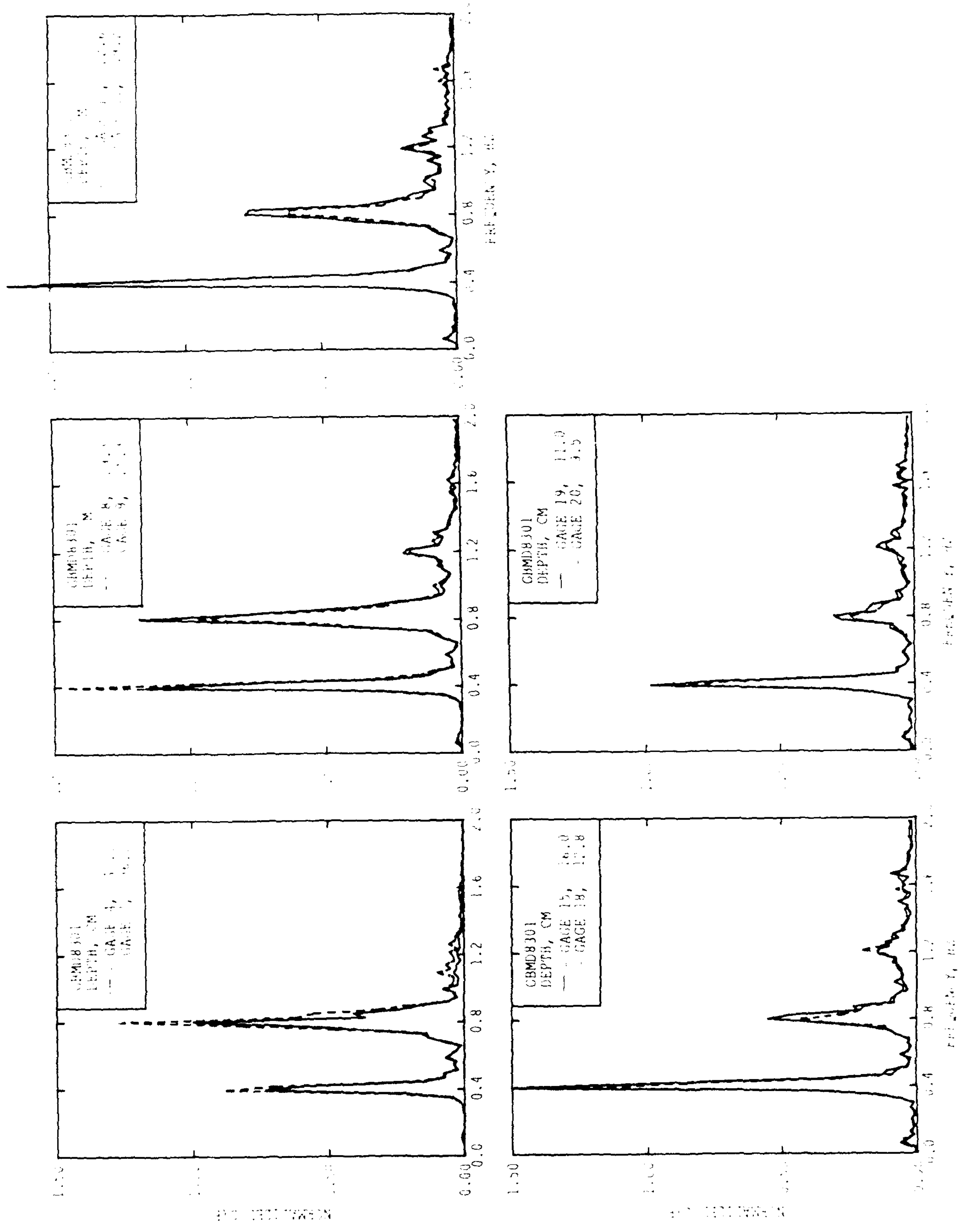
0.4
0.8
1.2
1.6
2.0








GBMD8301
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 3.5
GBMD8301
DEPTH, CM
GAGE 15, 16.0
GAGE 18, 11.8
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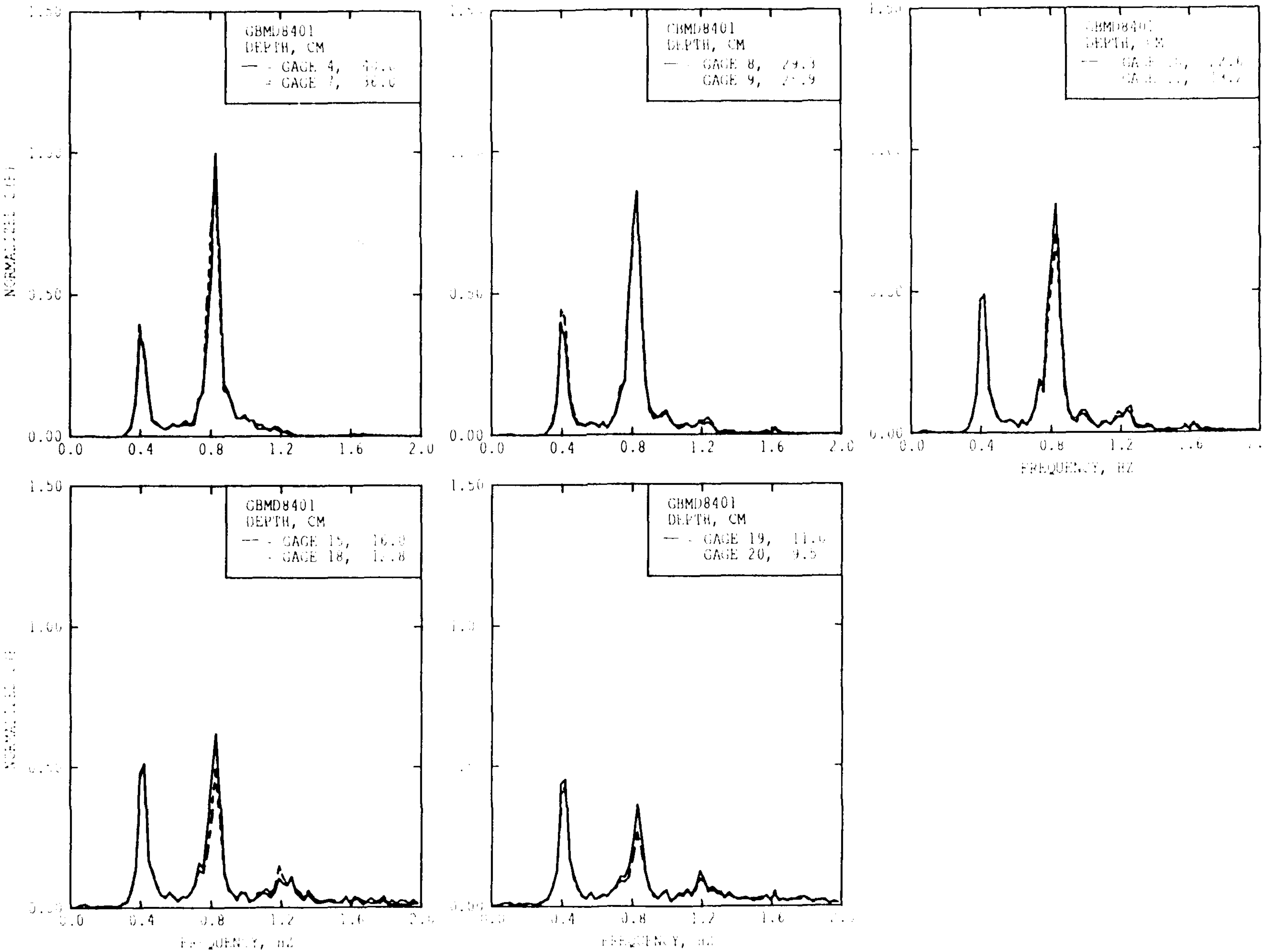
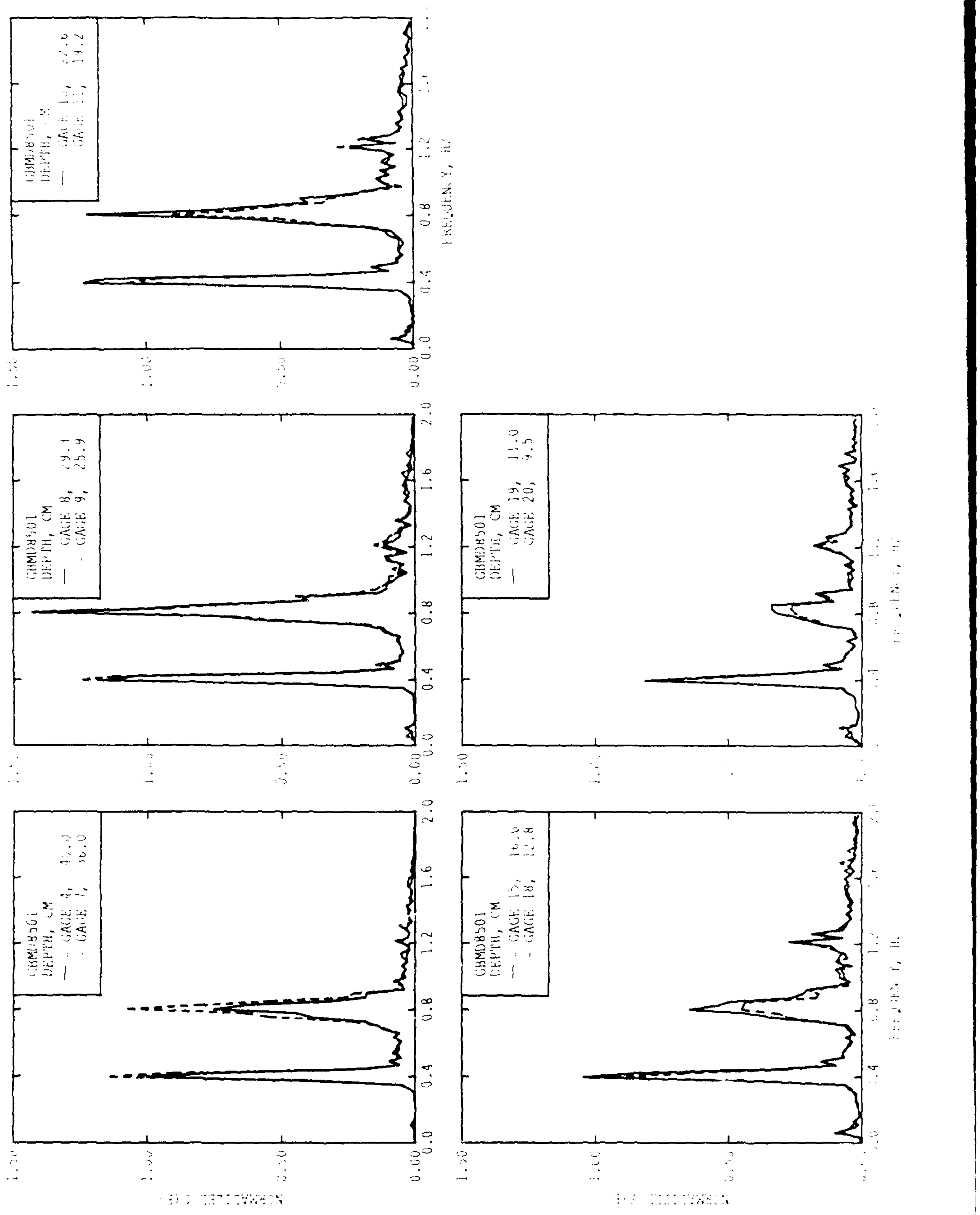
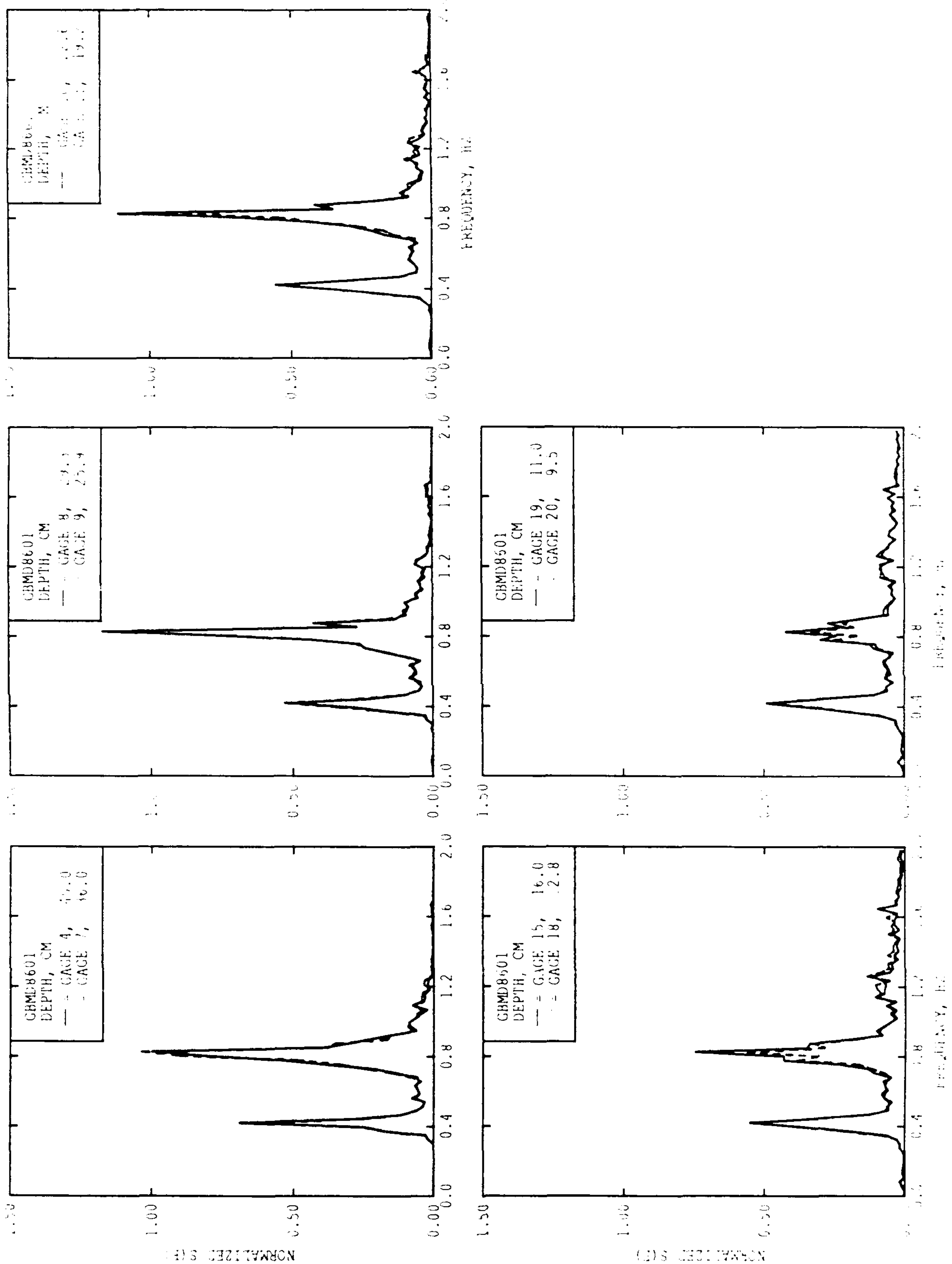
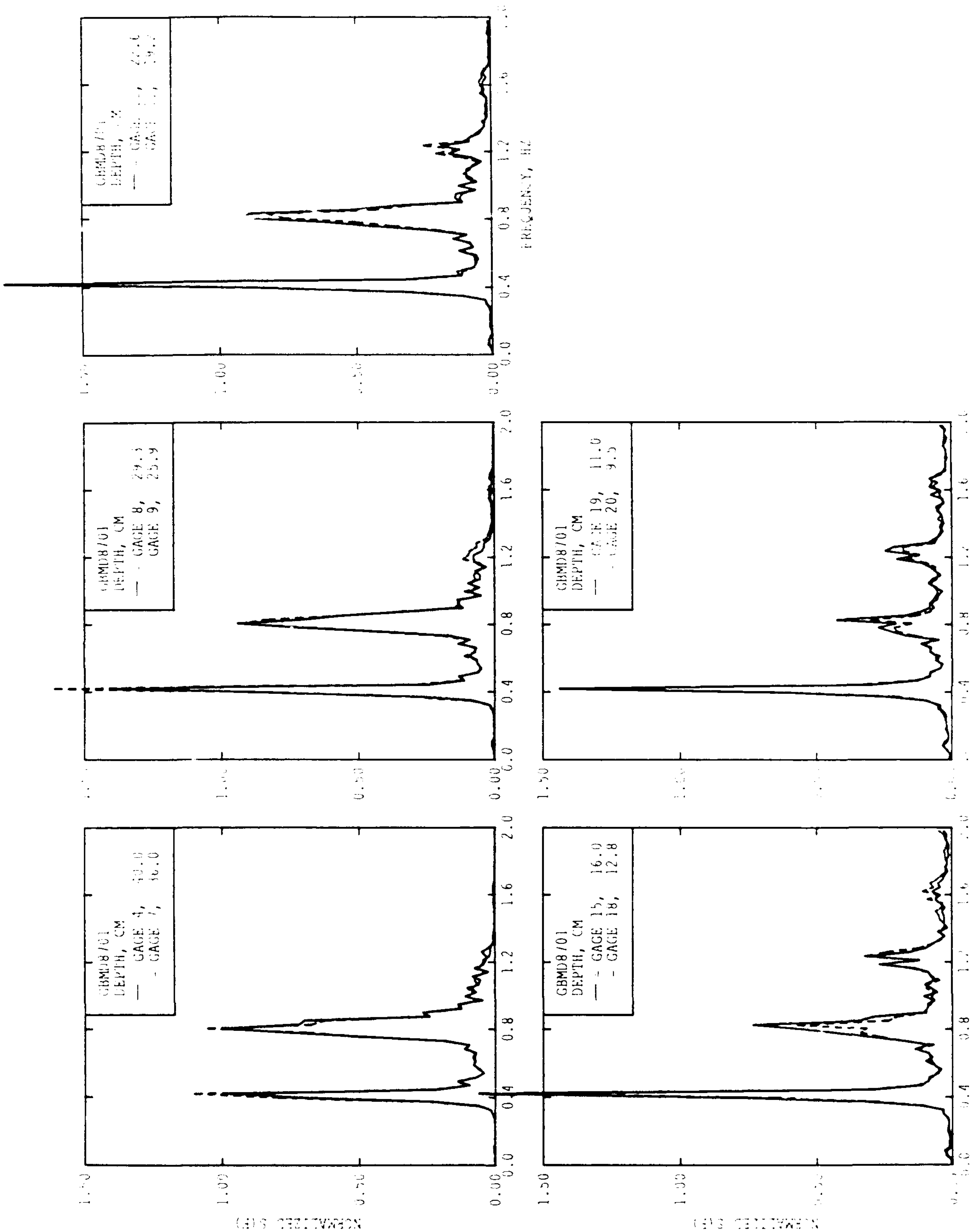
0.00
0.0
0.4
0.8
1.2
1.6
2.0

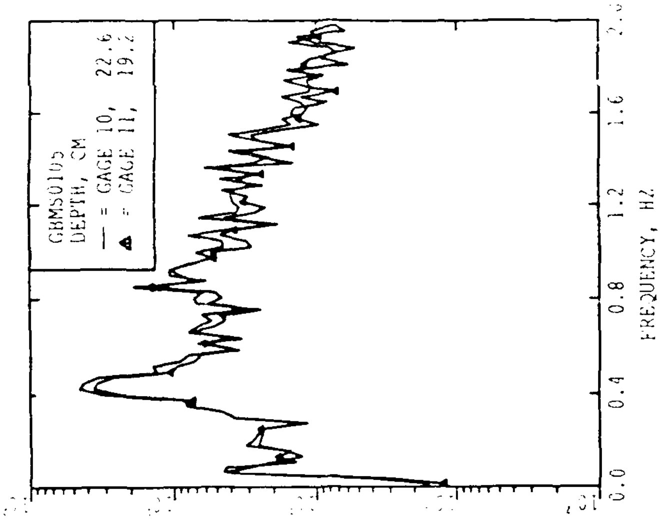

GBMD8401
DEPTH, CM
GAGE 4,
GAGE 7,
GBMD8401
DEPTH, CM
GAGE 8, 29.3
GAGE 9,
GBMD8401
GBMD8401
DEPTH, CM
GAGE 15,
GAGE 18,
GBMD8401
DEPTH, CM
GAGE 19,
GAGE 20, 9.5
FREQUENCY, HZ
0.0
0.4
0.8
1.2
1.6
2.0
0.00
0.50
1.50


GBMD8501
DEPTH, CM
GAGE 8, 29.3
GAGE 9, 25.9
GBMD8501
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
GBMD8501
DEPTH, CM
GAGE 15,
GAGE 18, 12.8


GBMD8601
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
GBMD8601
DEPTH, CM
GAGE 15, 16.0
GAGE 18, 12.8
GBMD8601
DEPTH, CM
GAGE 8,
GAGE 9,
GBMD8601
DEPTH, CM
GAGE 4,
FREQUENCY, HZ
NORMALIZED S(F)


GBMD8/01
DEPTH, CM
GAGE 8,
GAGE 9, 25.9
GBMD8/01
DEPTH, CM
GAGE 15, 16.0
GAGE 18, 12.8
GBMD8/01
DEPTH, CM
GAGE 20,
FREQUENCY, HZ
0.0
0.4
0.8
1.2
1.6
2.0
0.00
0.50
1.00
1.50

APPENDIX H: SEMILOG CROSS-SHORE ARRAY SPECTRA


GBMS0105
DEPTH, CM
— = GAGE 10, 22.6
▲ = GAGE 11, 19.2
FREQUENCY, HZ
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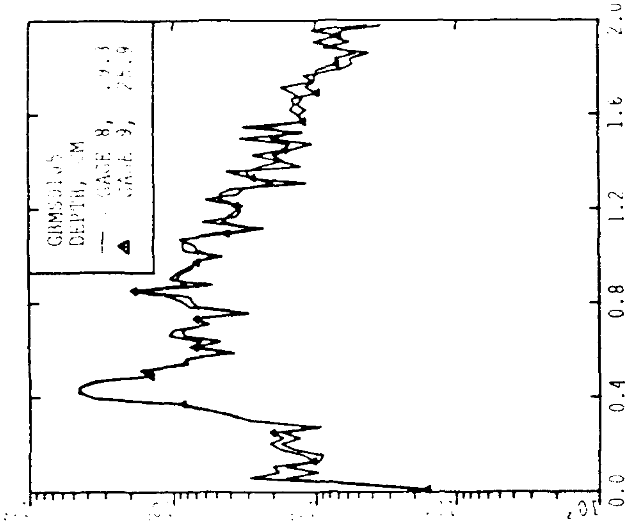
0.8
1.2
1.6


DEPTH, CM
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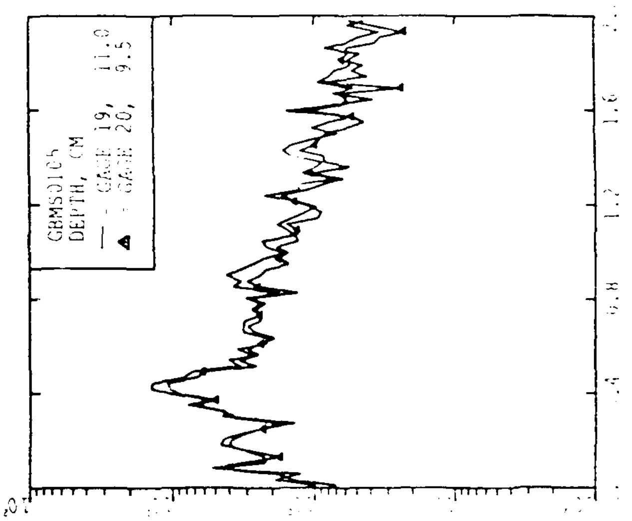
0.4
0.8
1.2
1.6
2.0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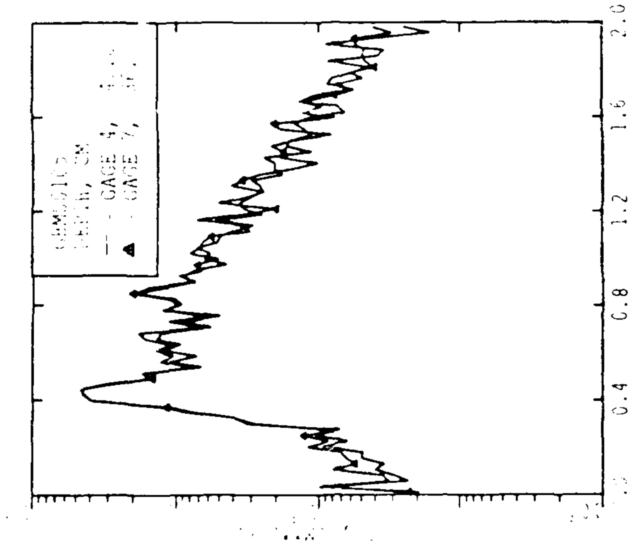
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
1.6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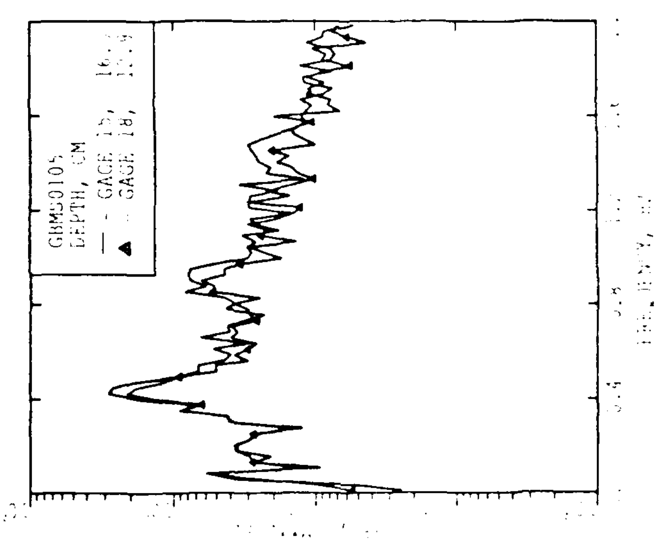
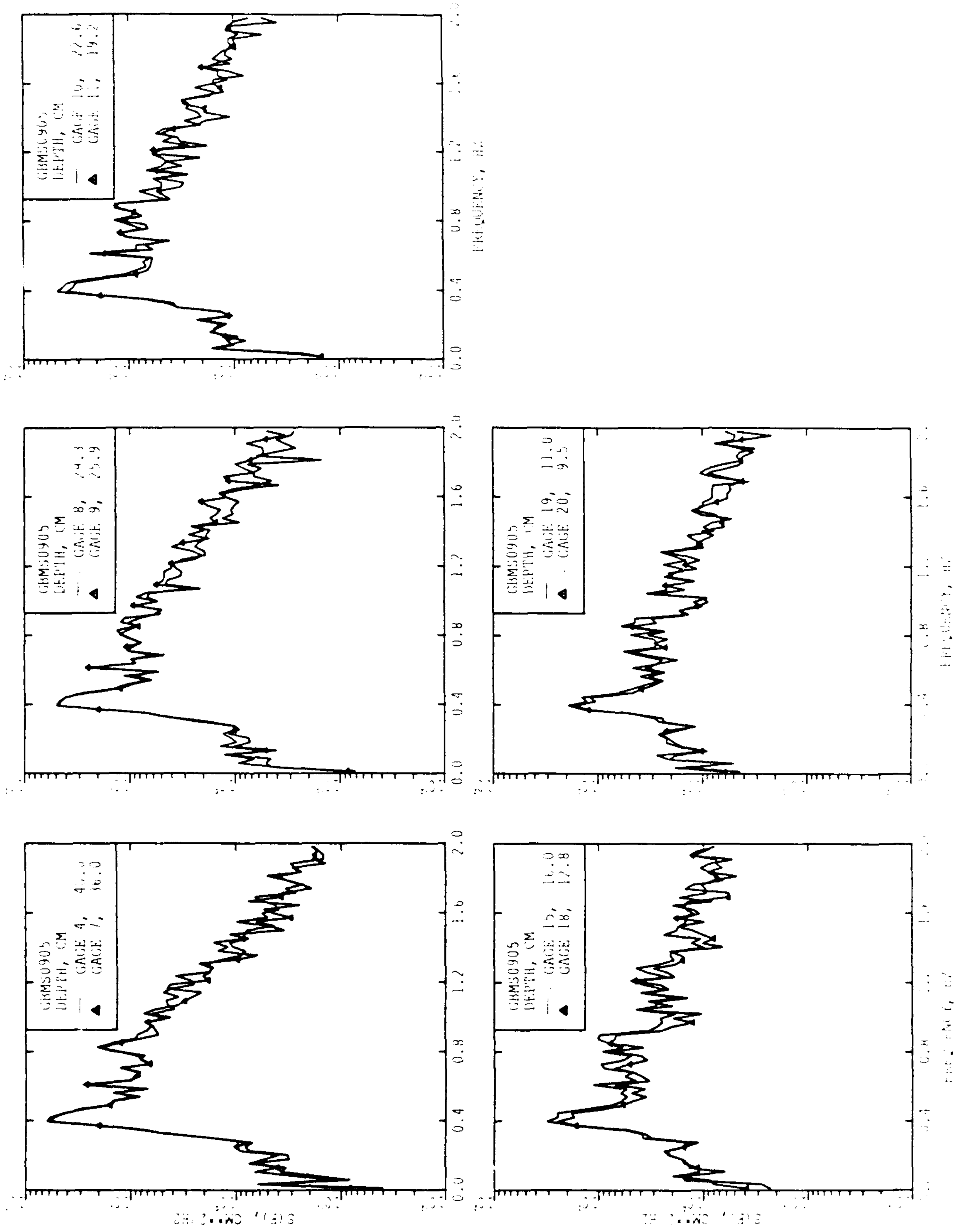
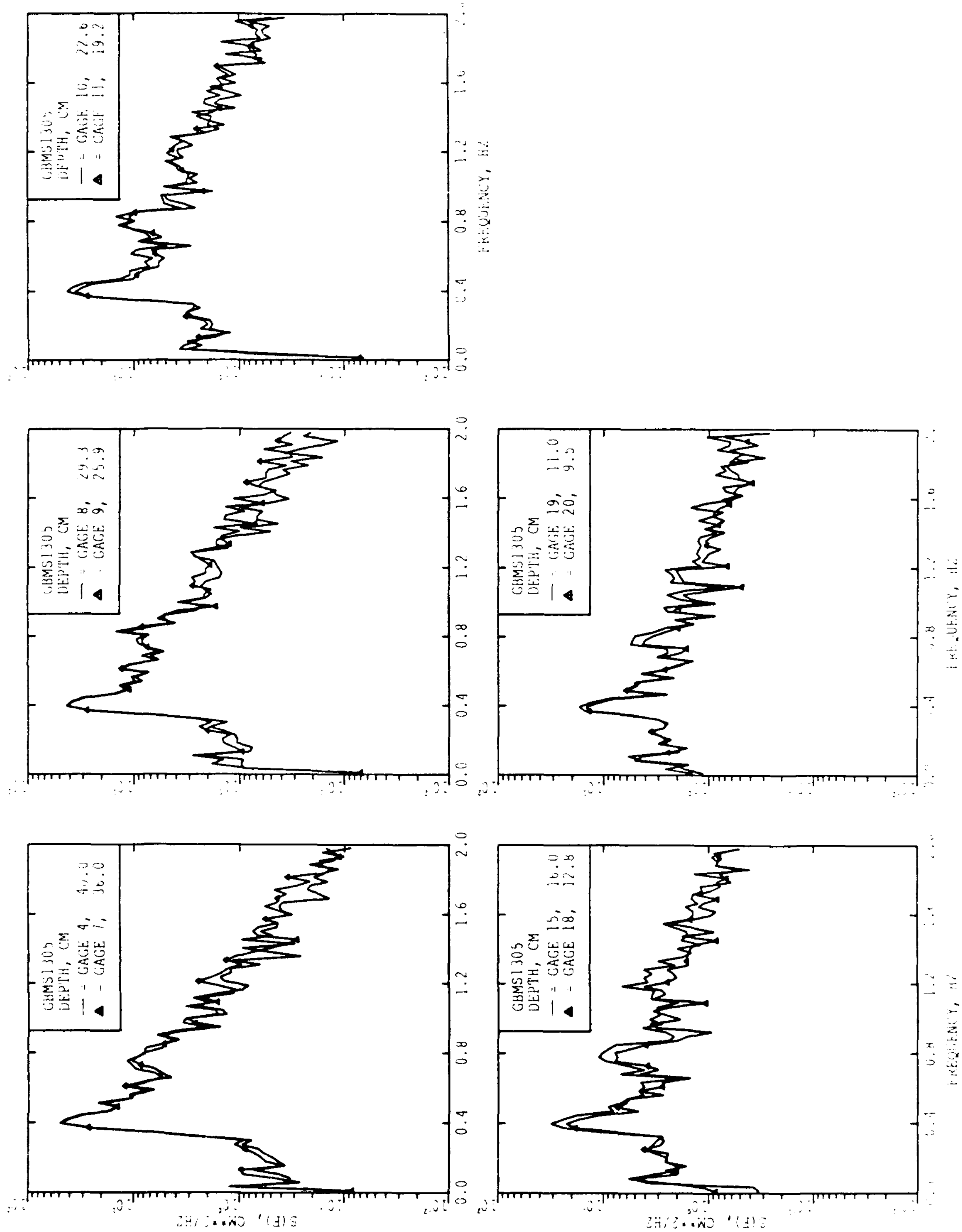
0.8
1.2
1.6
2.0


GBMS0105
DEPTH, CM


GBMS0905
DEPTH, CM
GAGE 8,
GAGE 9, 25.9
GBMS0905
DEPTH, CM
GAGE 4,
GAGE 7, 36.0
GBMS0905
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
GBMS0905
DEPTH, CM
GAGE 15, 16.0
GAGE 18, 12.8
FREQUENCY, HZ


GBMS1305
DEPTH, CM
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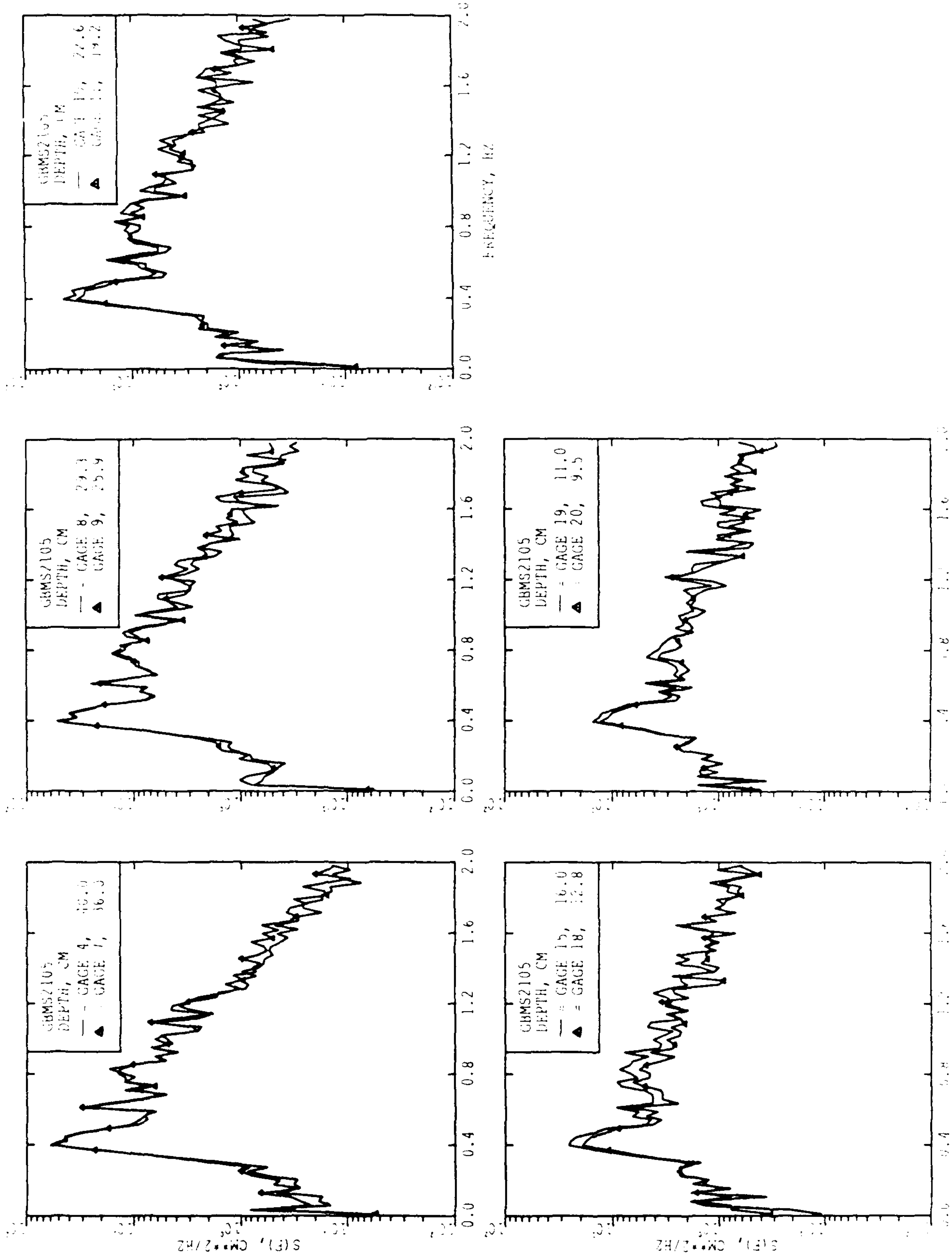
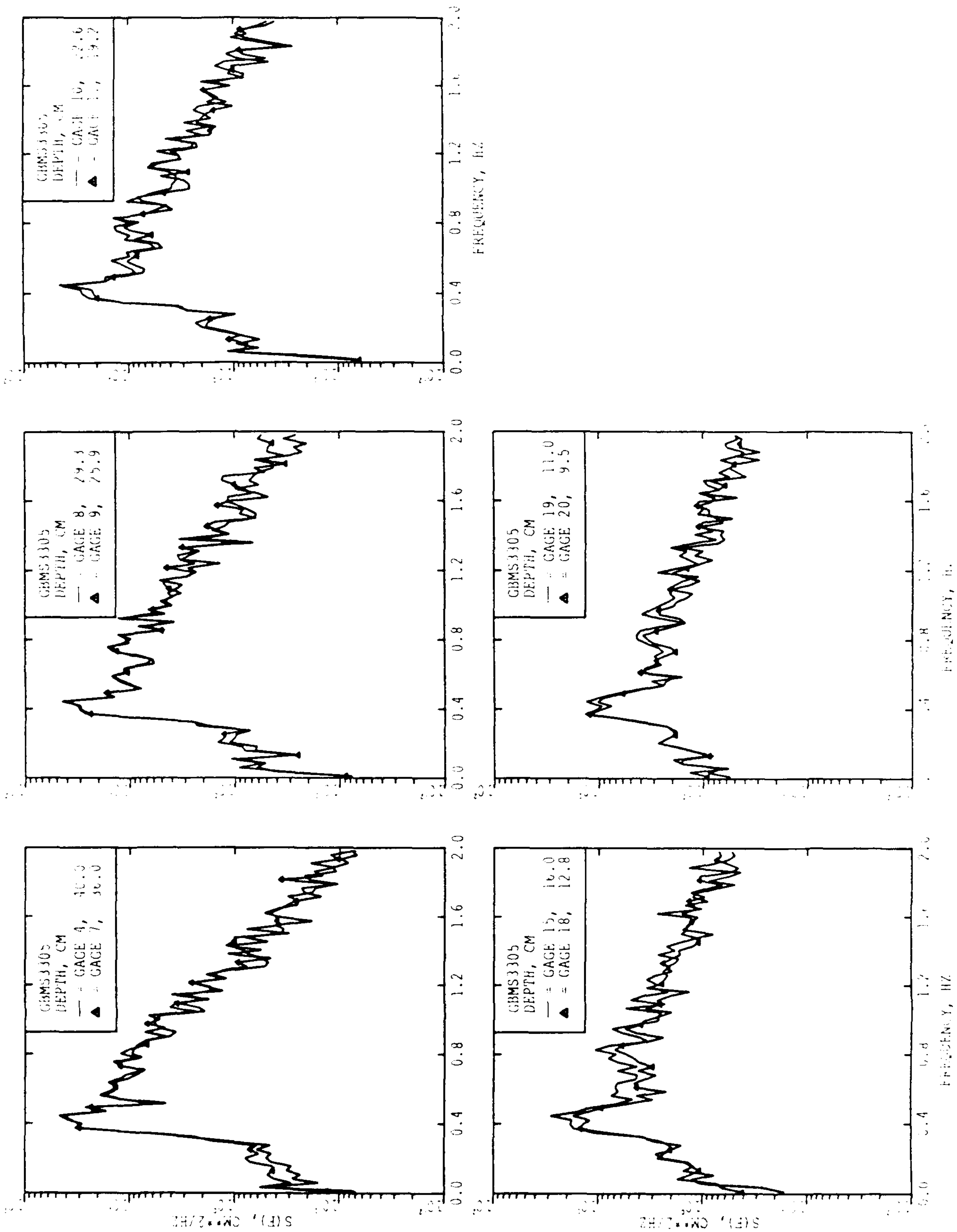
GBMS1305
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMS1305
DEPTH, CM
— = GAGE 10, 22.6
▲ = GAGE 11, 19.2
GBMS1305
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMS1305
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
S(F), CM**2/HZ
FREQUENCY, HZ


GBMS2105
DEPTH, CM
— = GAGE 8,
▲ = GAGE 9, 25.9
GBMS2105
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
GBMS2105
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18,
0.0
0.4
0.8
1.2
1.6
2.0
FREQUENCY, HZ
S(F), CM**2/HZ


GBMS3305
DEPTH, CM
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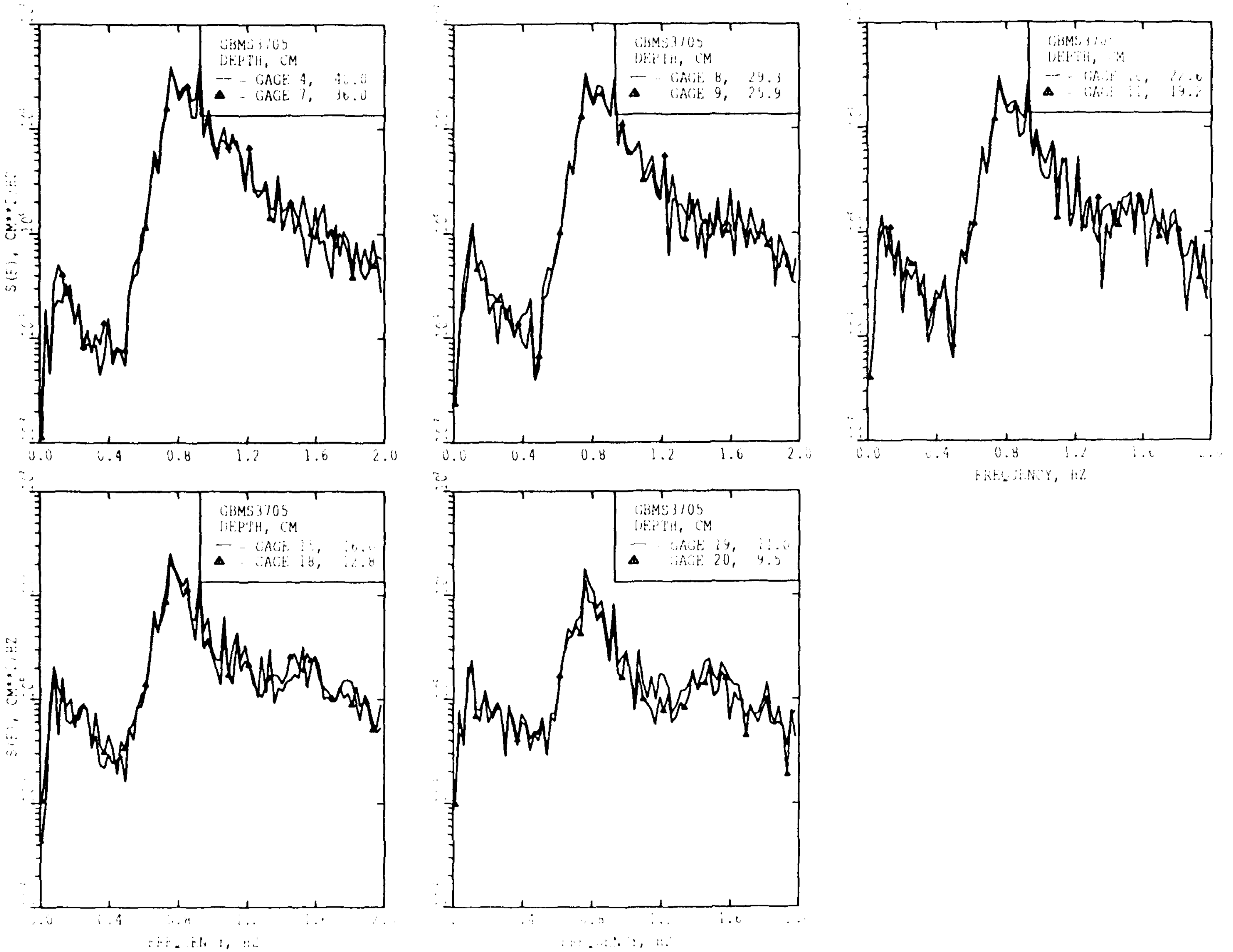
▲ = GAGE 9, 25.9
GBMS3305
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
GBMS3305
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMS3305
DEPTH, CM
— = GAGE 4,
▲ = GAGE 7,
FREQUENCY, HZ
S(F), CM**2/HZ


GBMS3705
DEPTH, CM
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▲ - GAGE 7, 36.0
— - GAGE 8, 29.3
▲ GAGE 9, 25.9
▲ - GAGE 18, 12.8
GAGE 20, 9.5
S(F), CM**2/HZ
FREQUENCY, HZ
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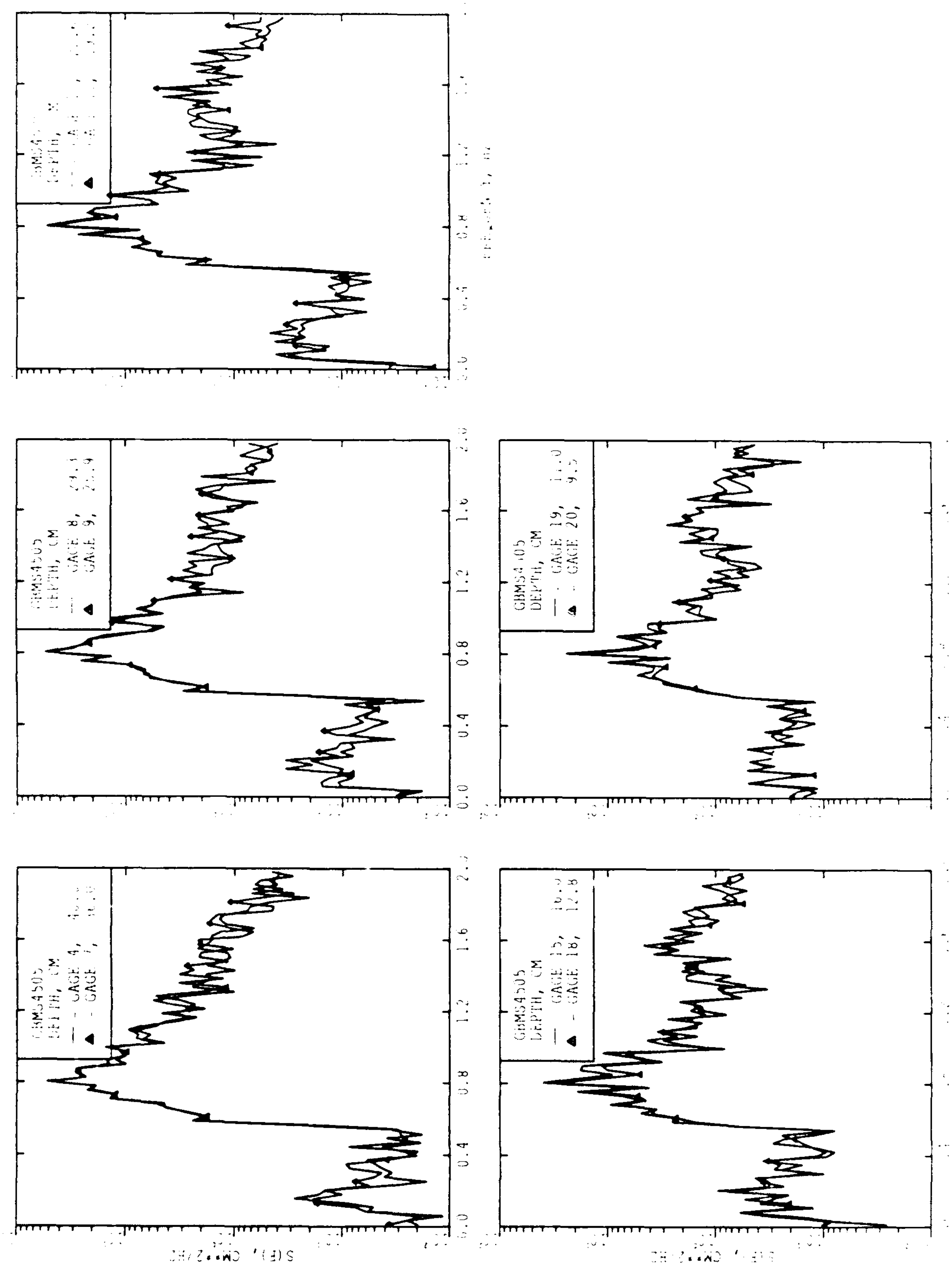
0.4
0.8
1.2
1.6
2.0


GBMS4505
DEPTH, CM
GAGE 8, 24.1
GAGE 9, 22.9
GAGE 19, 11.0
GAGE 20, 9.5
GAGE 15,
GAGE 18, 12.8
GAGE 4,
S(F), CM**2/HZ
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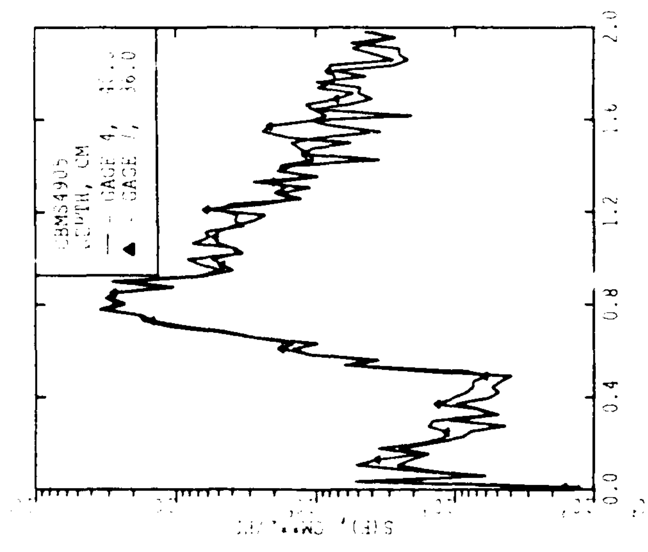
0.4
0.8
1.2
1.6
2.0


GBMS4905
DEPTH, CM
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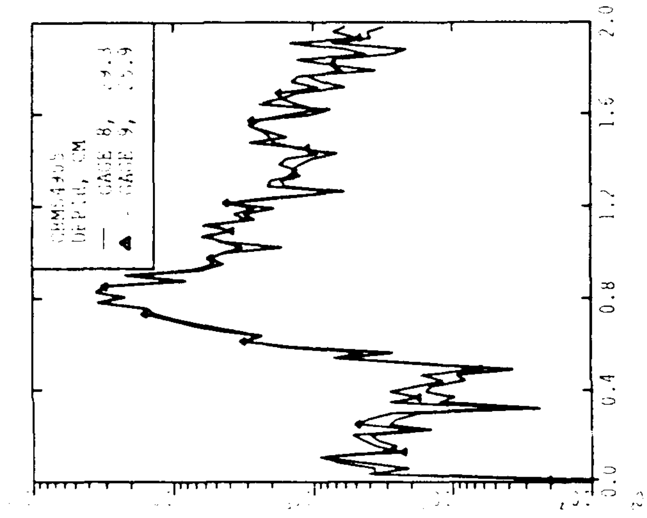
0.8
1.2
1.6
2.0
S(F), CM**2/HZ


GBMS4905
DEPTH, CM
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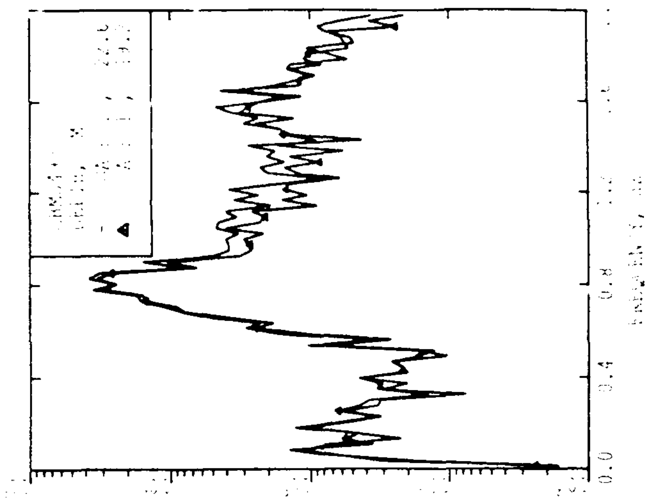
0.4
0.8
1.2
1.6
2.0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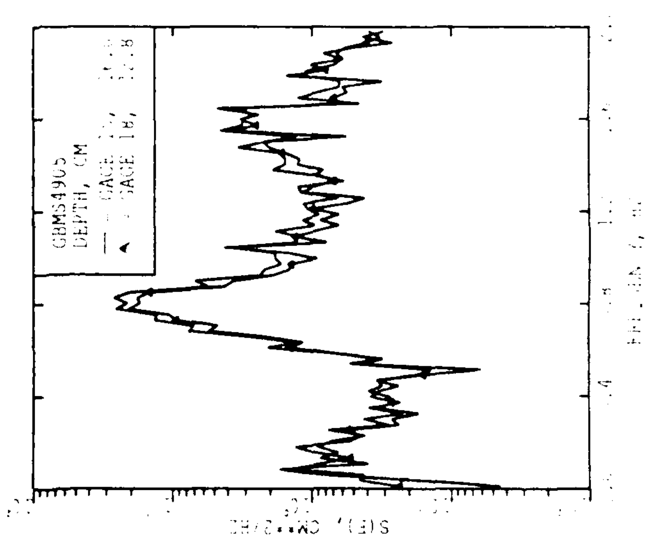
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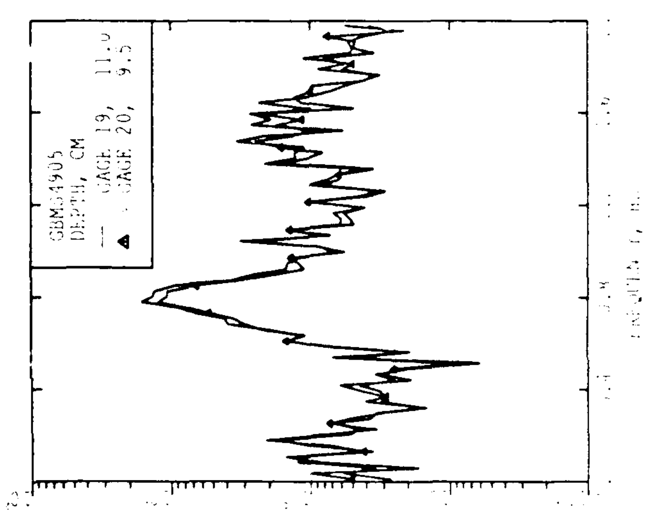
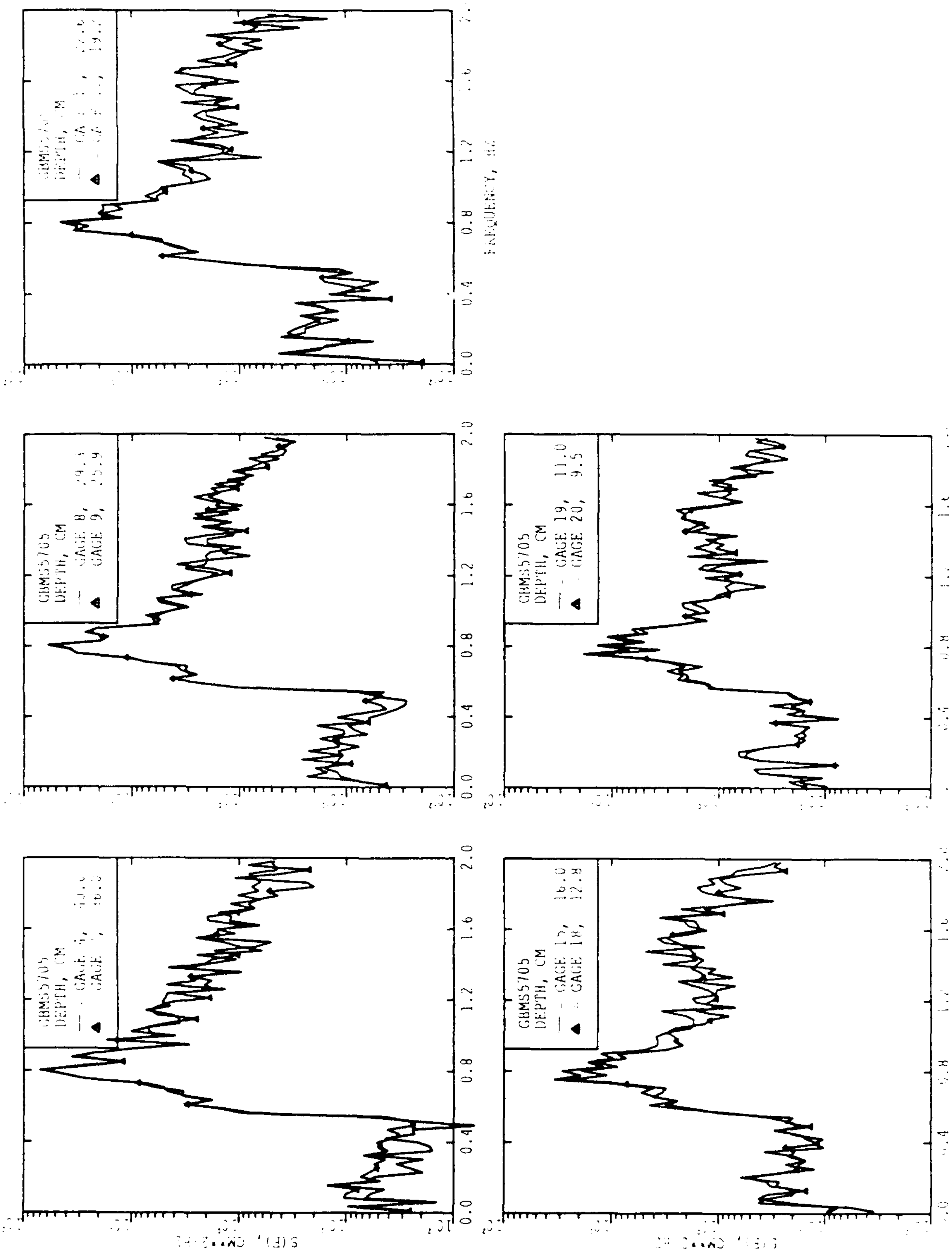
DEPTH, CM
S(F), CM**2/HZ


GBMS4905
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5


GBMS5705
DEPTH, CM
GAGE 8,
GAGE 9, 25.9
GBMS5705
DEPTH, CM
GAGE 15, 16.0
GAGE 18, 12.8
GBMS5705
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
FREQUENCY, HZ
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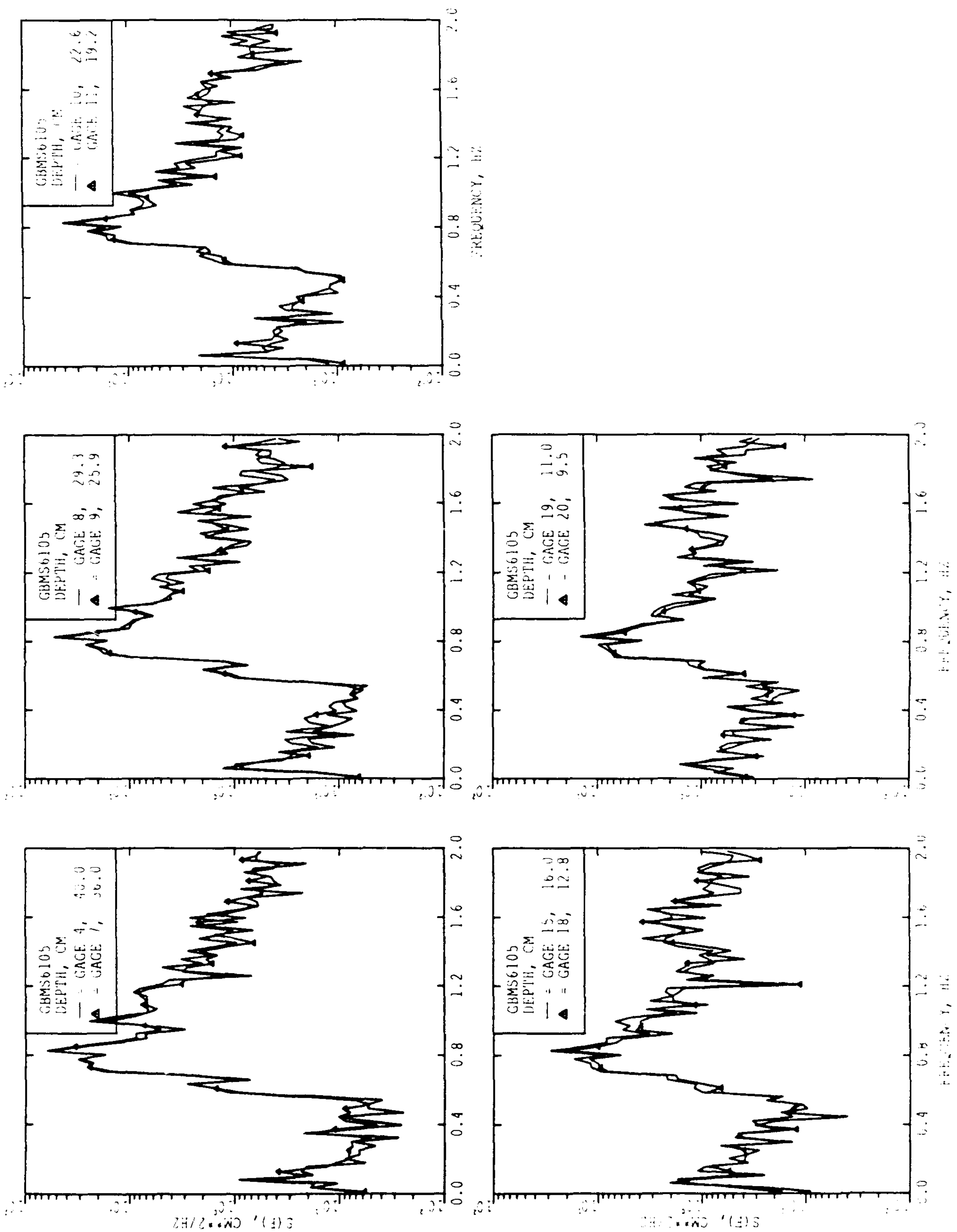
0.4
0.8
1.2
1.6
2.0


GBMS6105
DEPTH, CM
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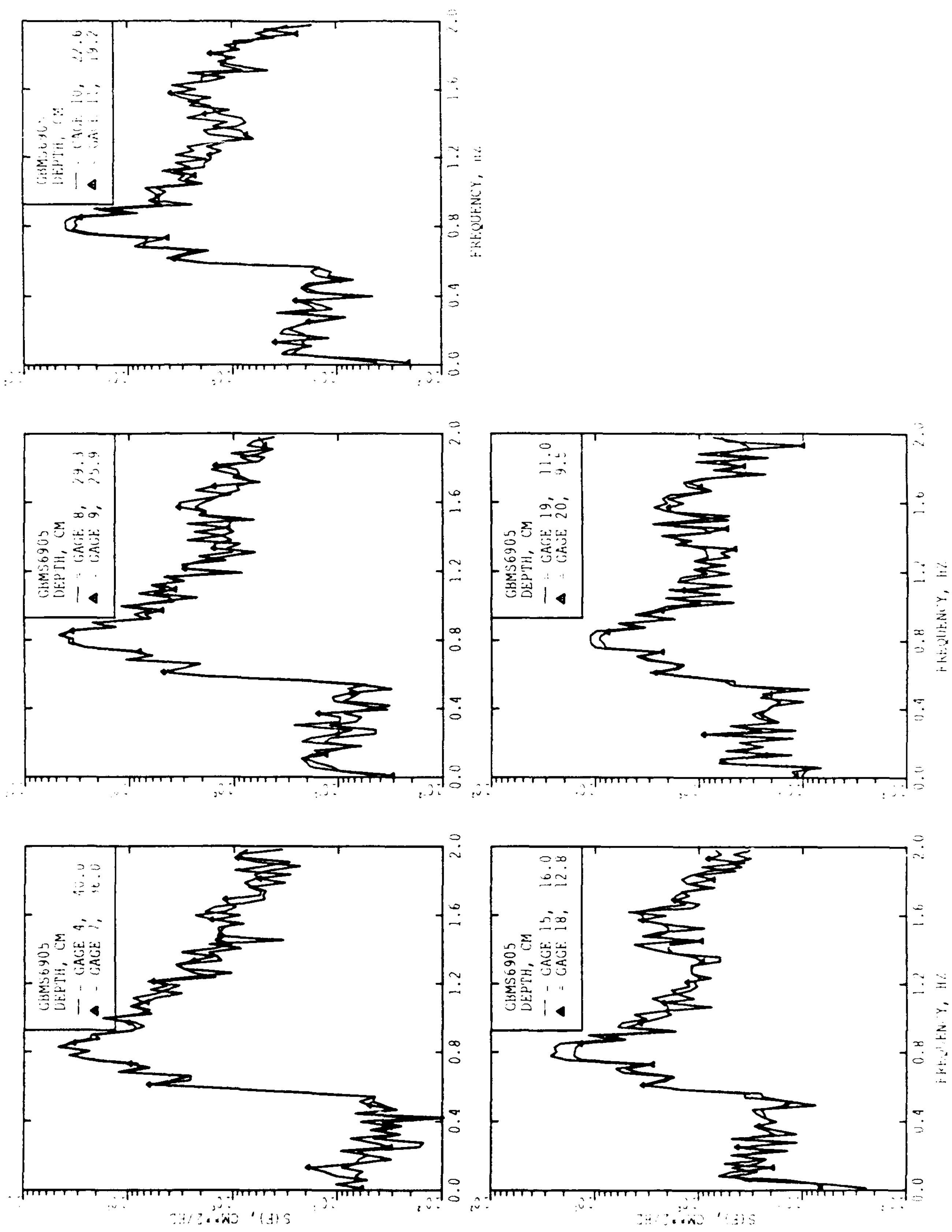
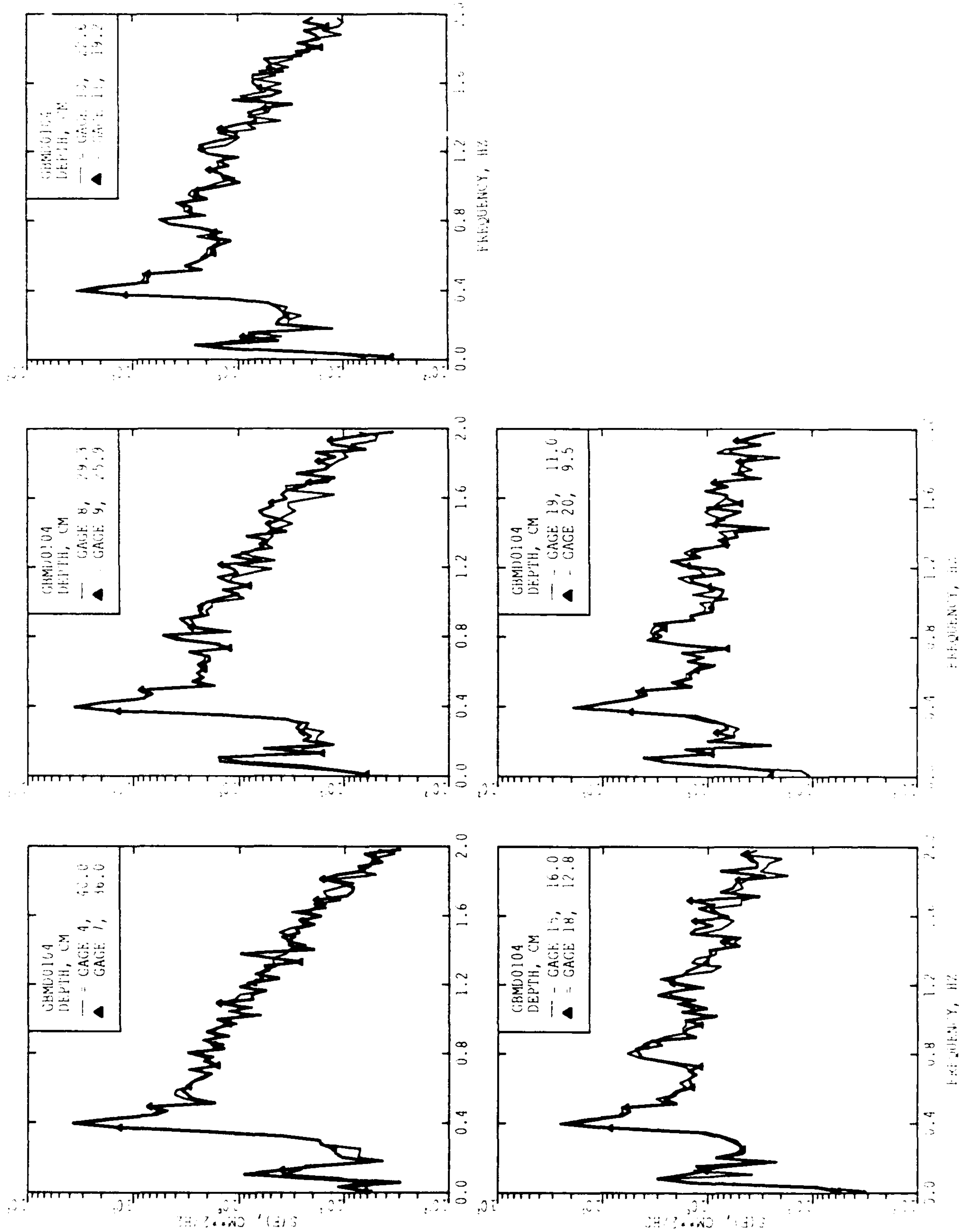
GBMS6105
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMS6105
DEPTH, CM
GBMS6105
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMS6105
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ


GBMS6905
DEPTH, CM
— - GAGE 8, 29.3
▲ - GAGE 9, 25.9
GBMS6905
DEPTH, CM
— - GAGE 15, 16.0
▲ - GAGE 18, 12.8
GBMS6905
DEPTH, CM
FREQUENCY, HZ
S(F), CM**2/HZ


GBMD0104
DEPTH, CM
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▲ = GAGE 9, 25.9
GBMD0104
DEPTH, CM
— = GAGE 19, 11.0
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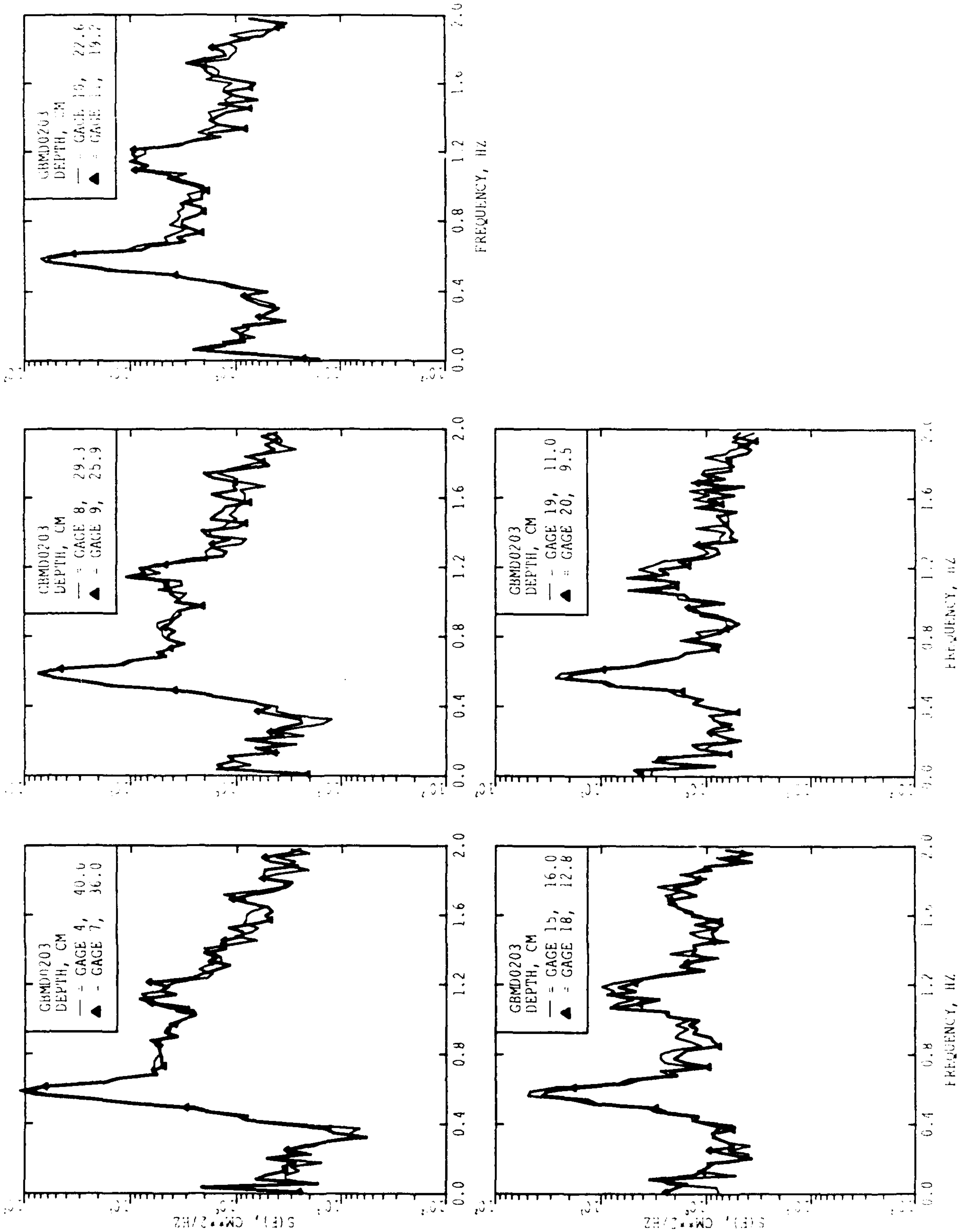
GBMD0104
DEPTH, CM
— = GAGE 18, 12.8
FREQUENCY, HZ
S(F), CM**2/HZ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DEPTH, CM
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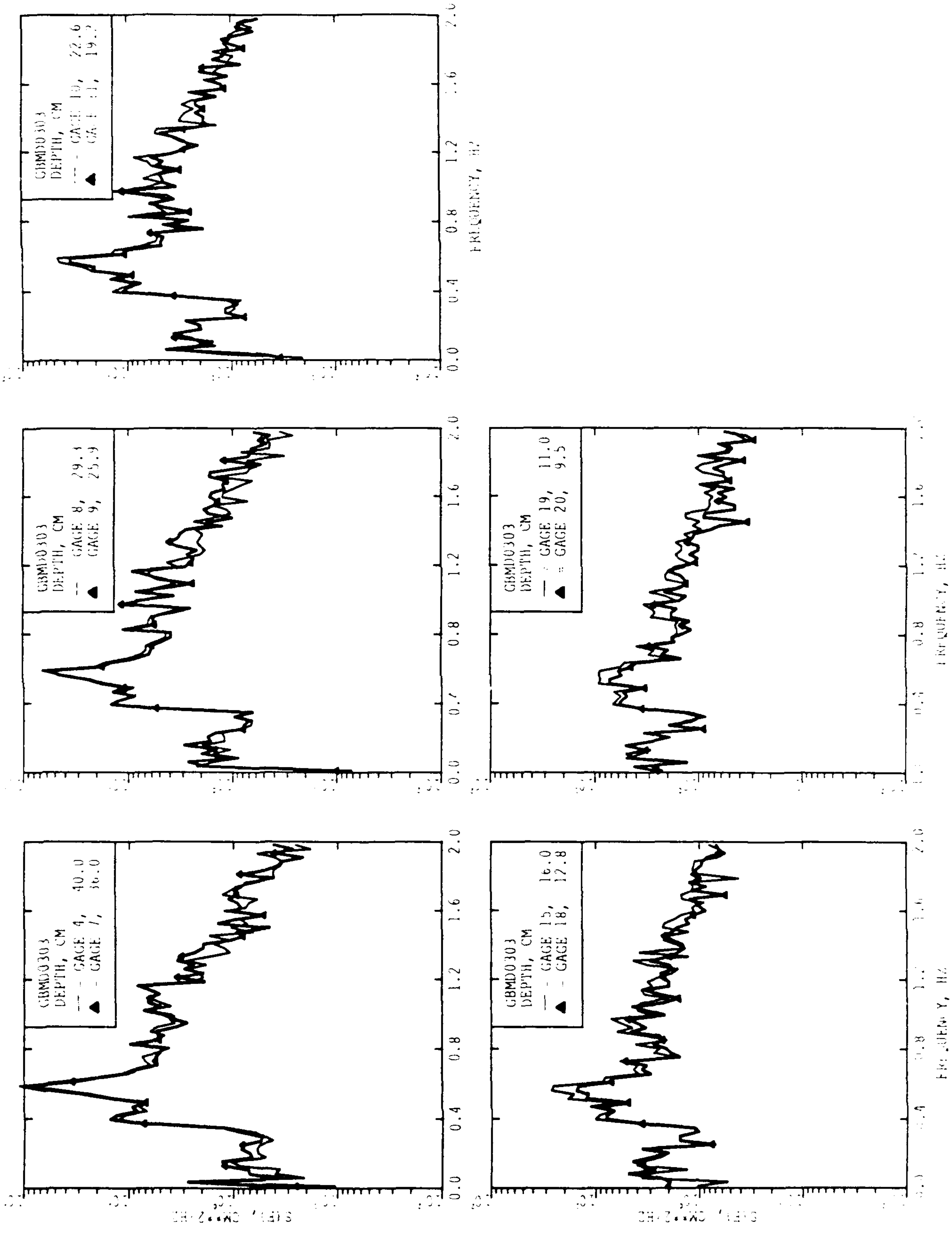
GBMD0203
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD0203
DEPTH, CM
GBMD0203
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMD0203
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ


GBMD0303
DEPTH, CM
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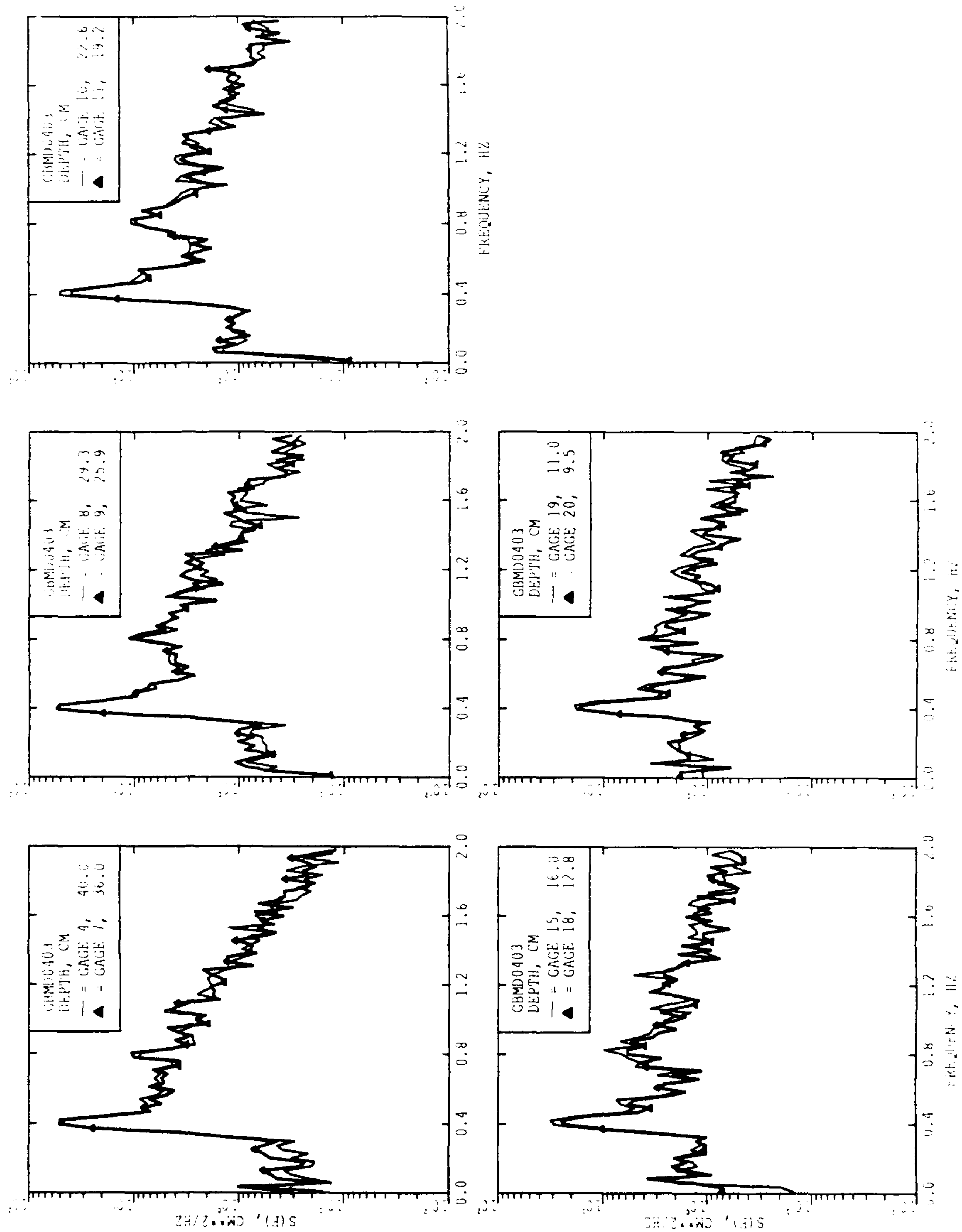
GBMD0303
DEPTH, CM
GAGE 8, 29.3
GAGE 9, 25.9
GBMD0303
DEPTH, CM
GBMD0303
DEPTH, CM
GAGE 15, 16.0
GAGE 18, 12.8
GBMD0303
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
FREQUENCY, HZ


GBMD0403
DEPTH, CM
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GBMD0403
DEPTH, CM
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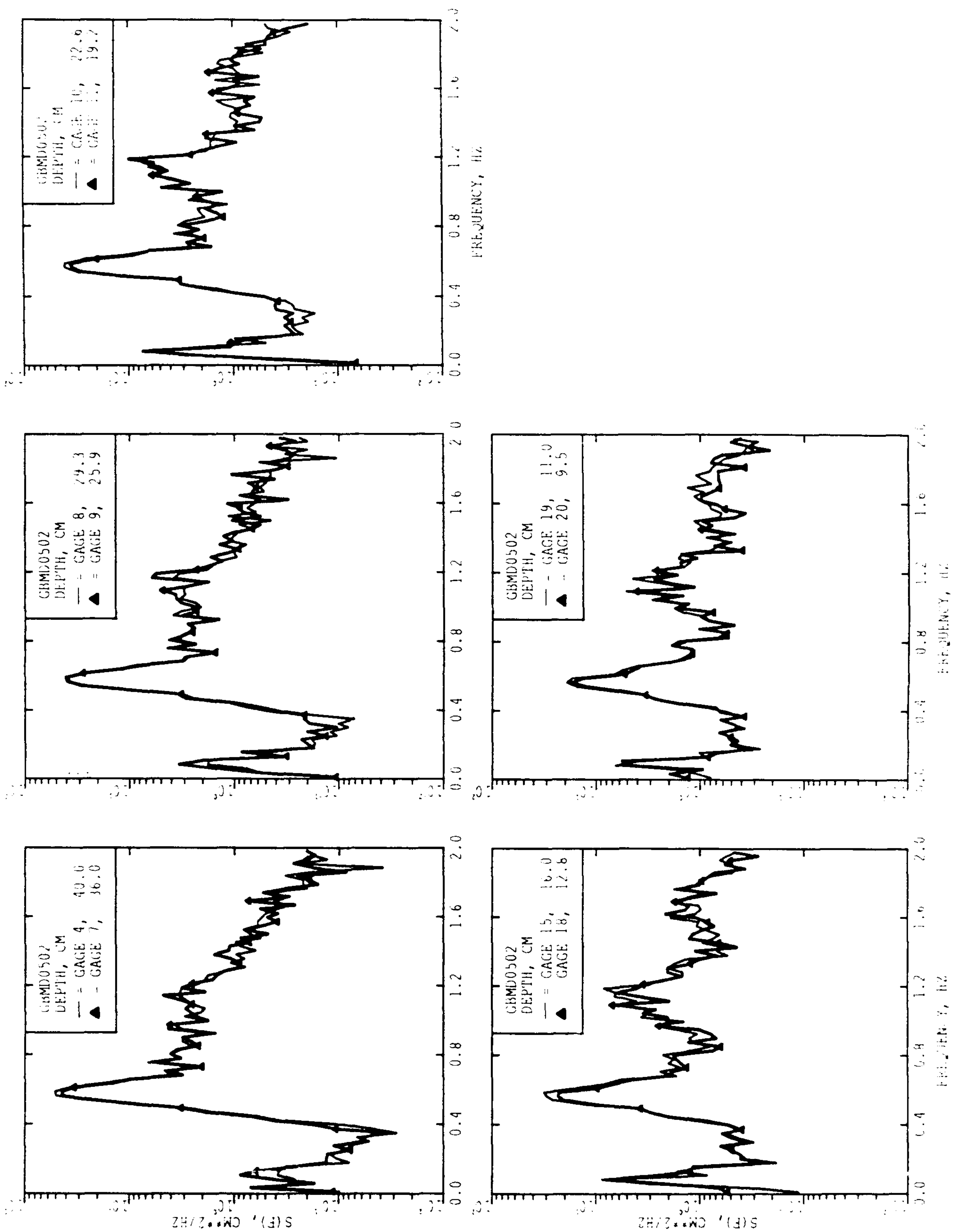
= GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ


GBMD0502
DEPTH, CM
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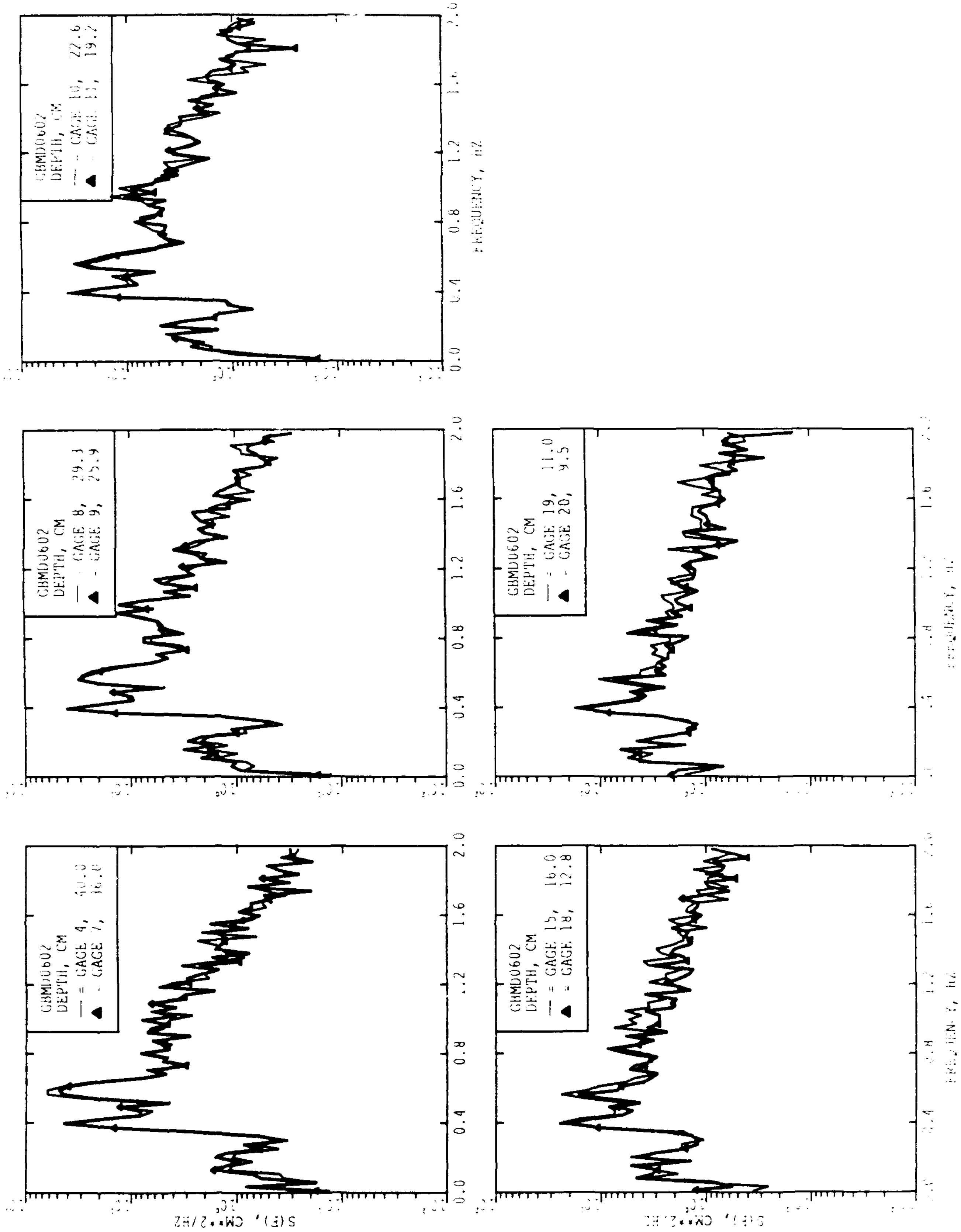
GBMD0502
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
DEPTH, CM
GBMD0502
DEPTH, CM
— = GAGE 15, 16.0
▲ GAGE 18, 12.8
GBMD0502
DEPTH, CM
— - GAGE 19, 11.0
▲ - GAGE 20, 9.5
S(F), CM**2/HZ
FREQUENCY, HZ


GBMD0602
DEPTH, CM
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GBMD0602
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD0602
DEPTH, CM
— = GAGE 10, 22.6
▲ = GAGE 11, 19.2
GBMD0602
DEPTH, CM
— = GAGE 15, 16.0
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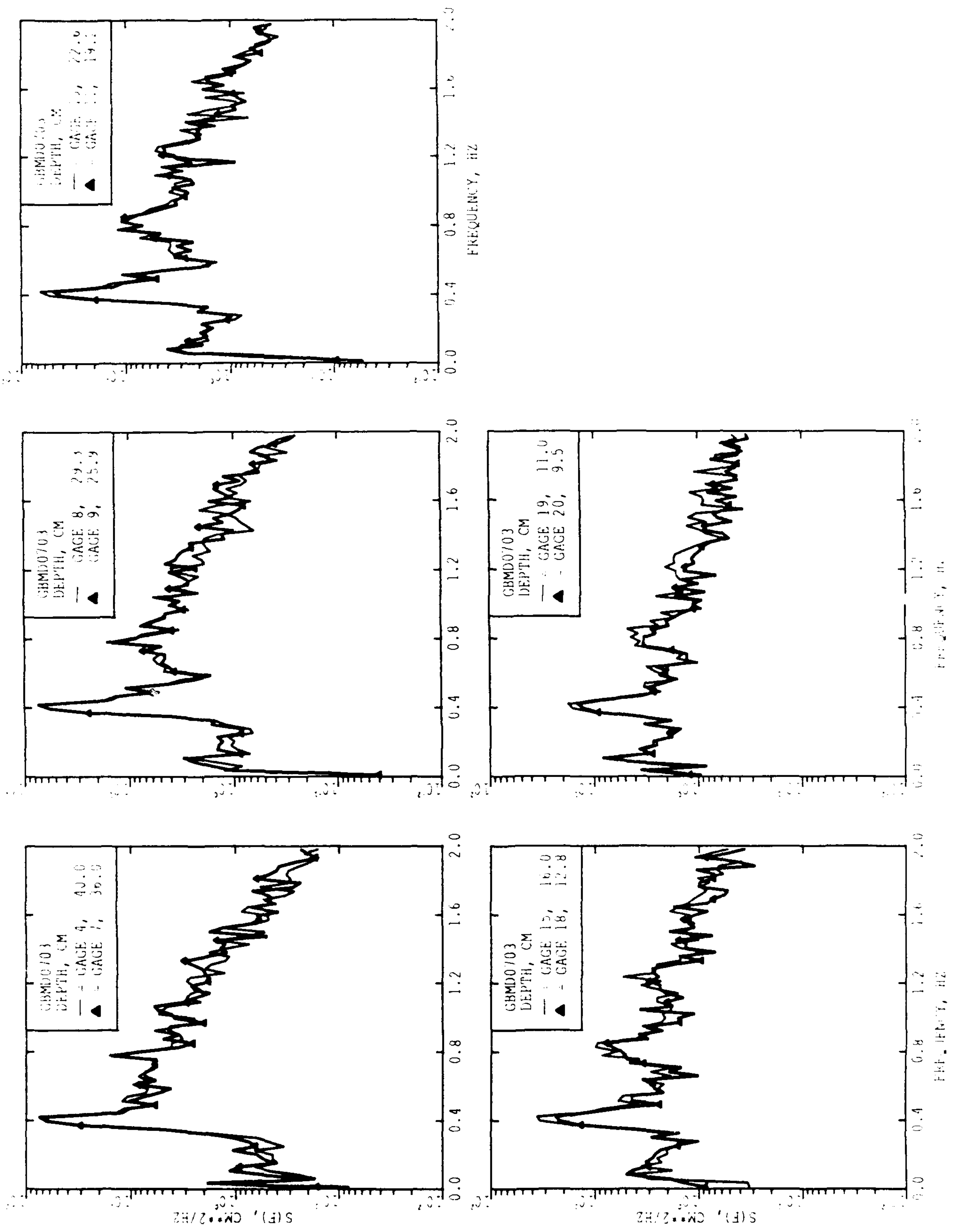
GBMD0602
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ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DEPTH, CM
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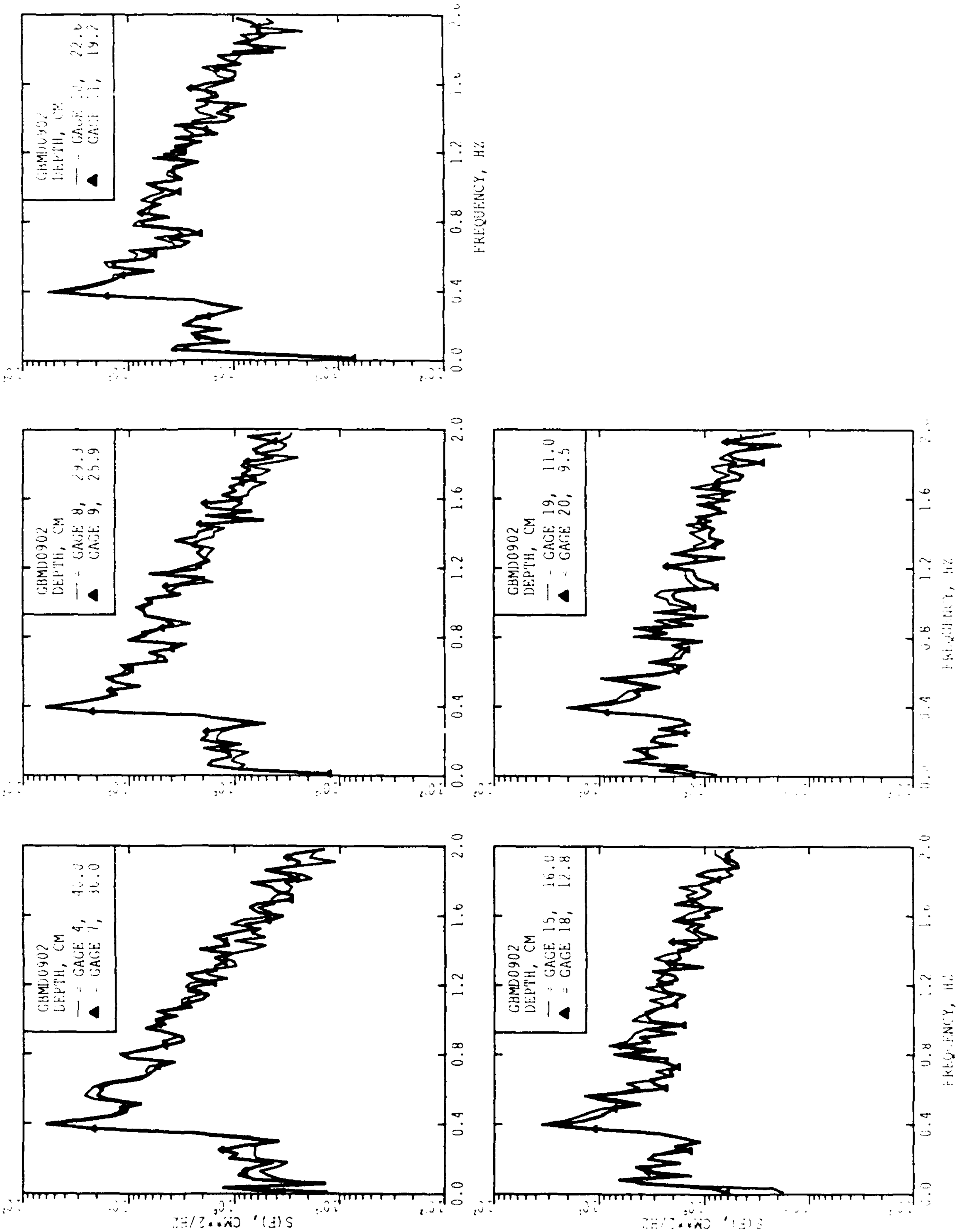
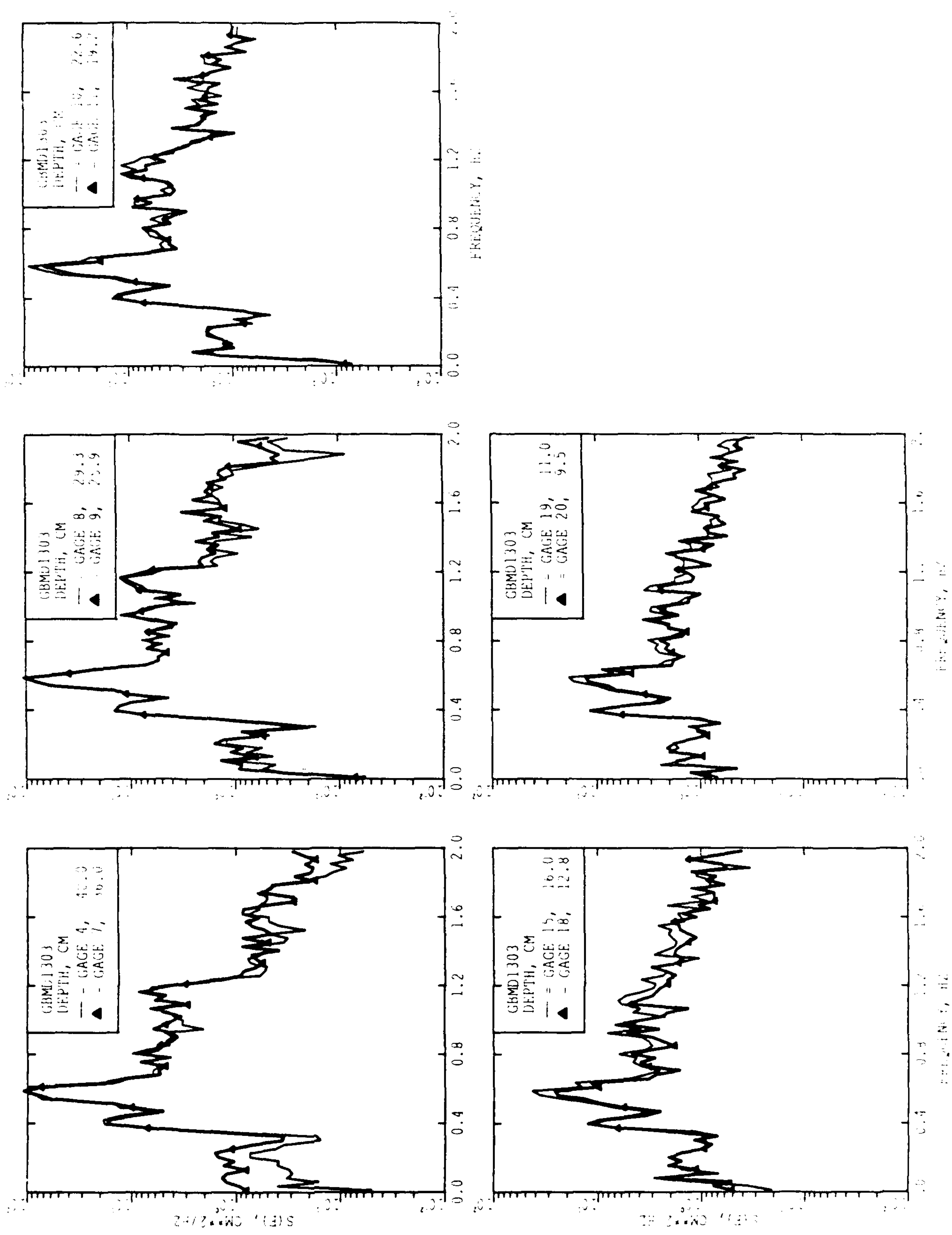
GAGE 7, 36.9
GAGE 8, 29.3
GAGE 9, 25.9
GAGE 15, 16.0
GAGE 18, 12.8
GAGE 19, 11.0
GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ


GBMD0902
DEPTH, CM
GAGE 8, 29.3
GAGE 9, 25.9
GAGE 15, 16.0
GAGE 18, 12.8
GAGE 19, 11.0
GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ


GBMD1303
DEPTH, CM
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— - GAGE 8, 29.3
▲ - GAGE 9,
— - GAGE 15, 16.0
▲ - GAGE 18, 12.8
— - GAGE 19, 11.0
▲ - GAGE 20, 9.5
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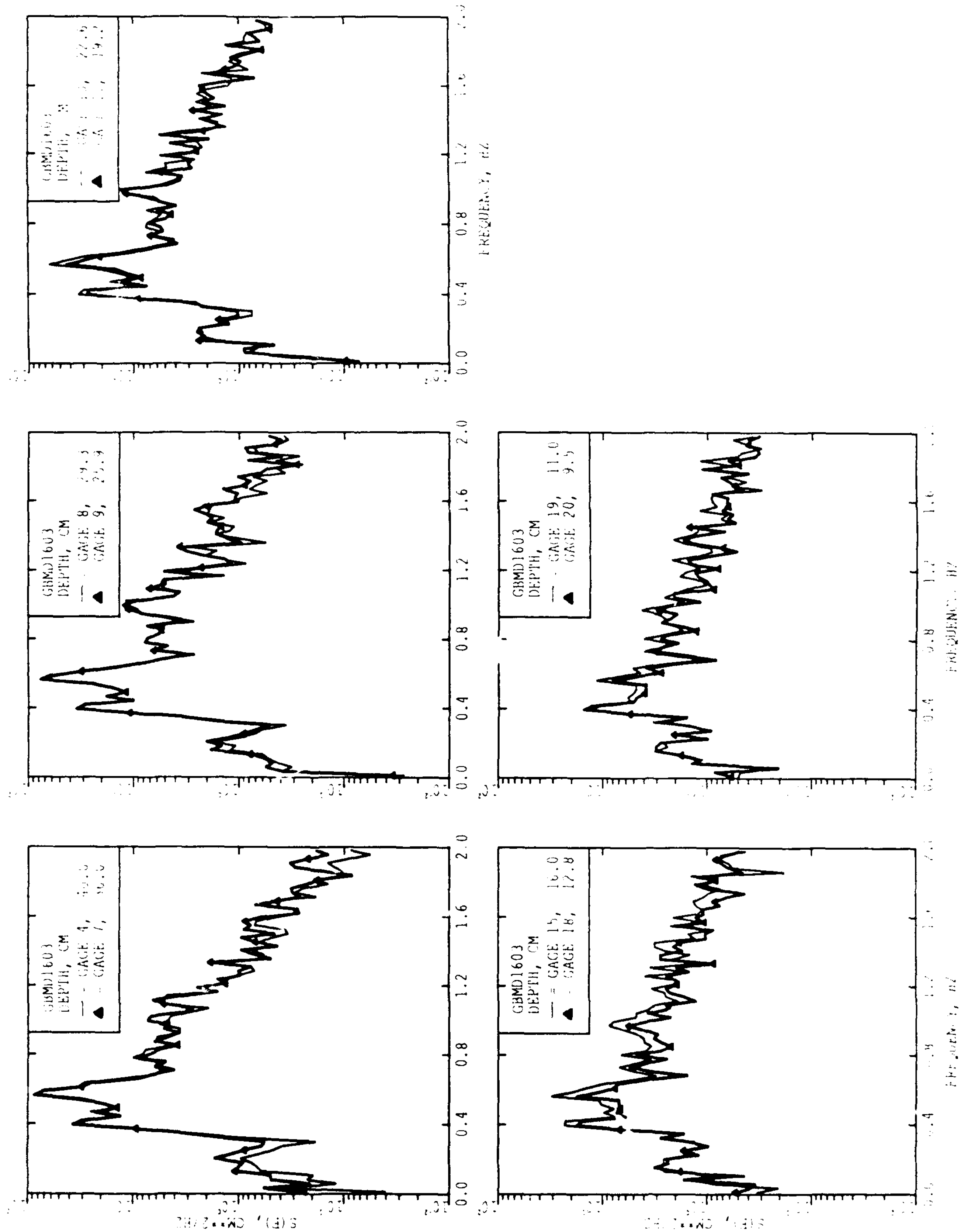
0.4
0.8
1.2
1.6
2.0
FREQUENCY, HZ
S(F), CM**2/HZ


GBMD1603
DEPTH, CM
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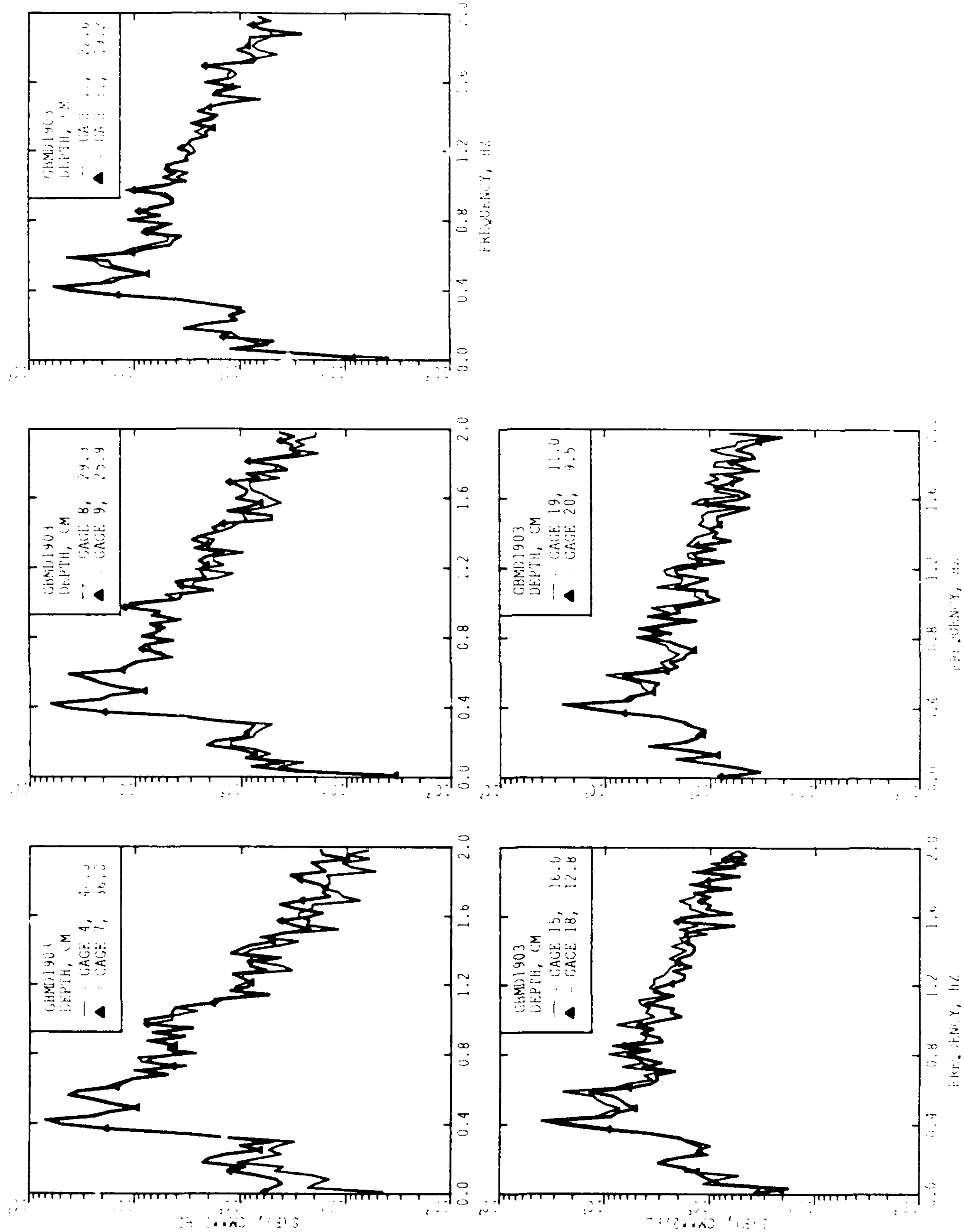
GAGE 15, 16.0
GAGE 18, 12.8
GAGE 19, 11.0
GAGE 20, 9.5
FREQUENCY, HZ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DEPTH, CM
GAGE 4,
GAGE 7,
GBMD1903
DEPTH, CM
GAGE 8, 29.3
GAGE 9, 25.9
GBMD1903
DEPTH, CM
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GBMD1903
DEPTH, CM
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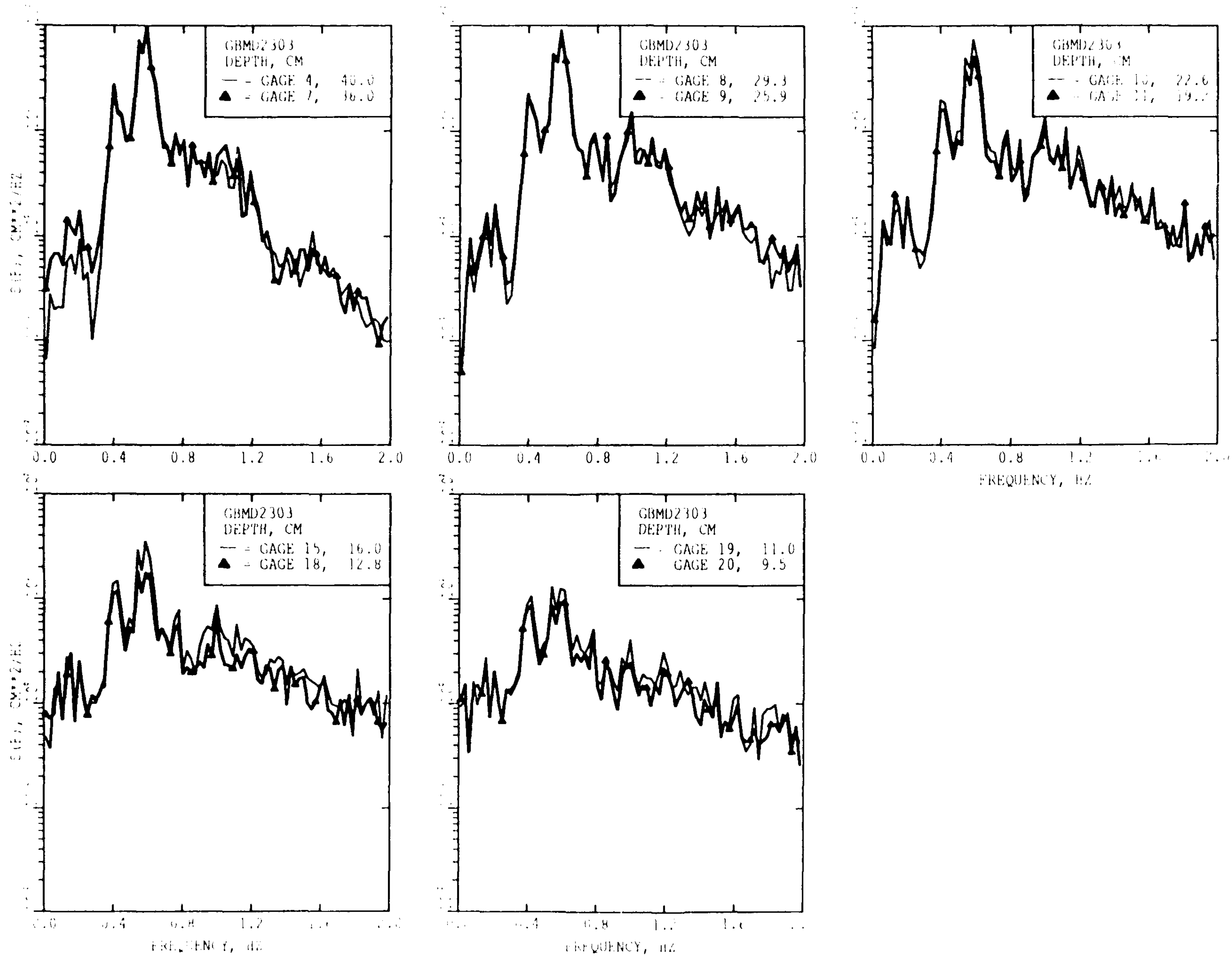
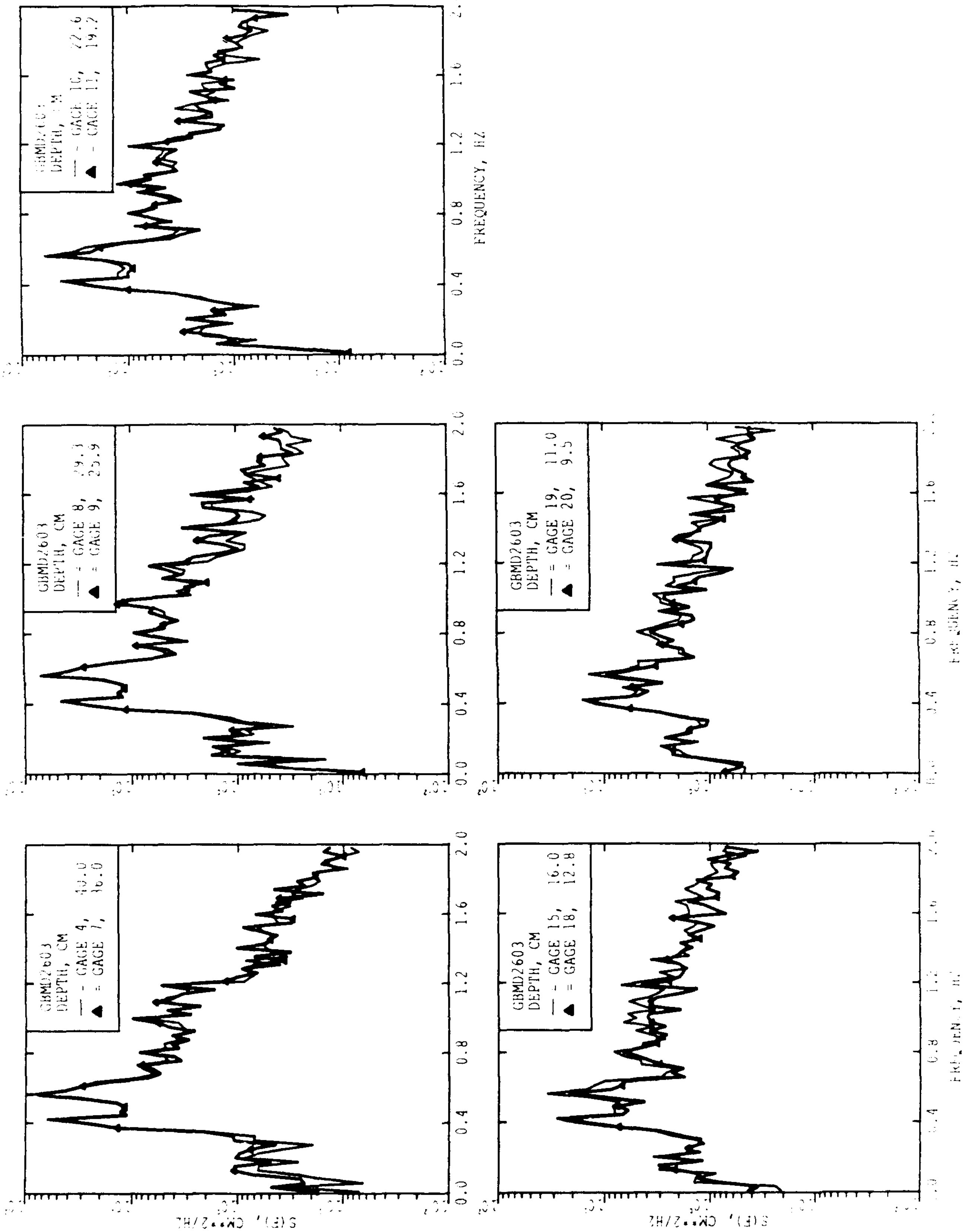
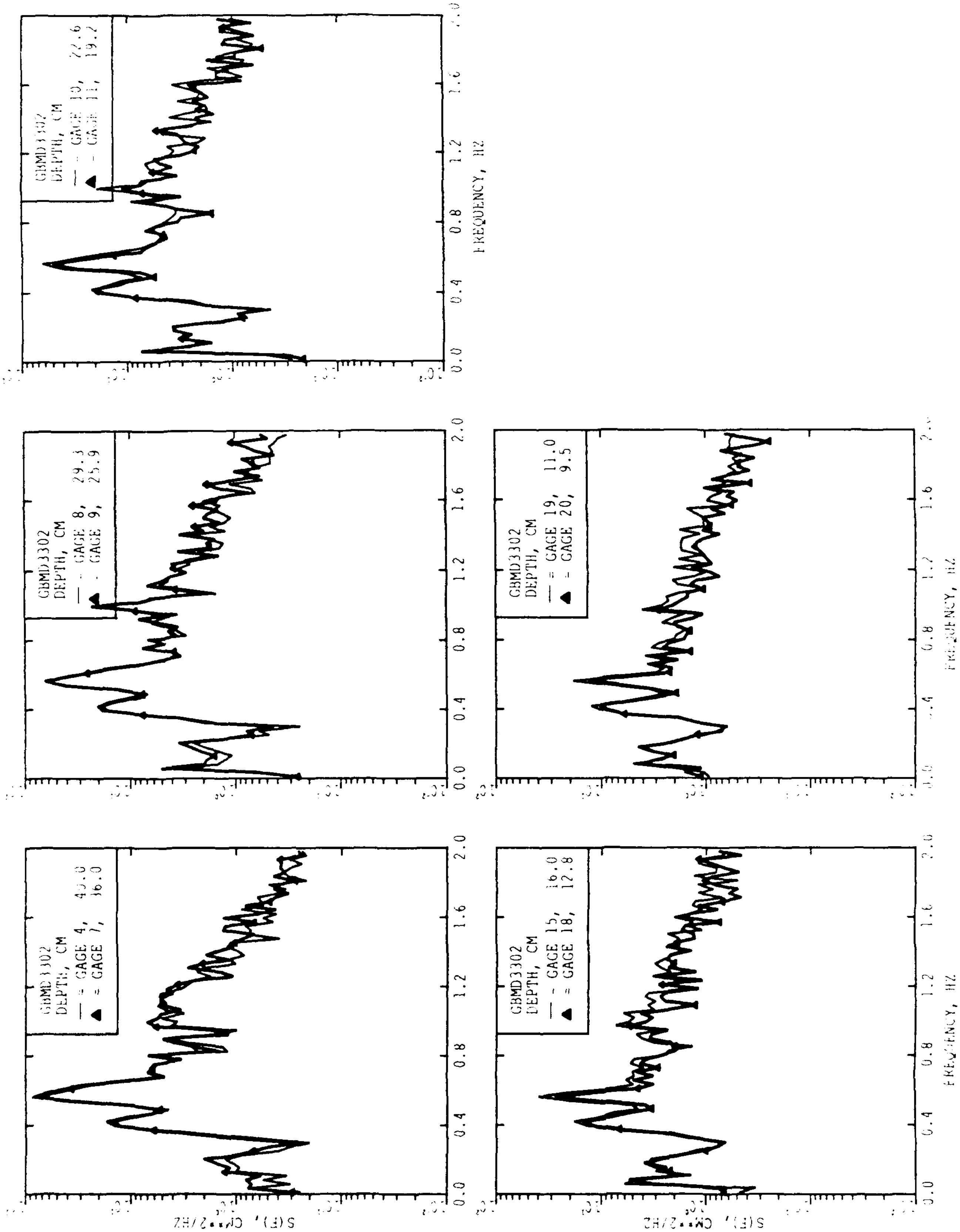
GAGE 20, 9.5
FREQUENCY, HZ


GBMD2303
DEPTH, CM
— = GAGE 4, 40.0
▲ = GAGE 7, 36.0
GBMD2303
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
DEPTH, CM
FREQUENCY, HZ
GBMD2303
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
FREQUENCY, HZ
GBMD2303
DEPTH, CM
— = GAGE 19, 11.0
▲ GAGE 20, 9.5
FREQUENCY, HZ


GBMD2603
DEPTH, CM
— = GAGE 10, 22.6
▲ = GAGE 11, 19.2
GBMD2603
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD2603
DEPTH, CM
— = GAGE 4, 40.0
▲ = GAGE 7, 16.0
GBMD2603
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
GBMD2603
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
FREQUENCY, HZ
S(F), CM**2/HZ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DEPTH, CM
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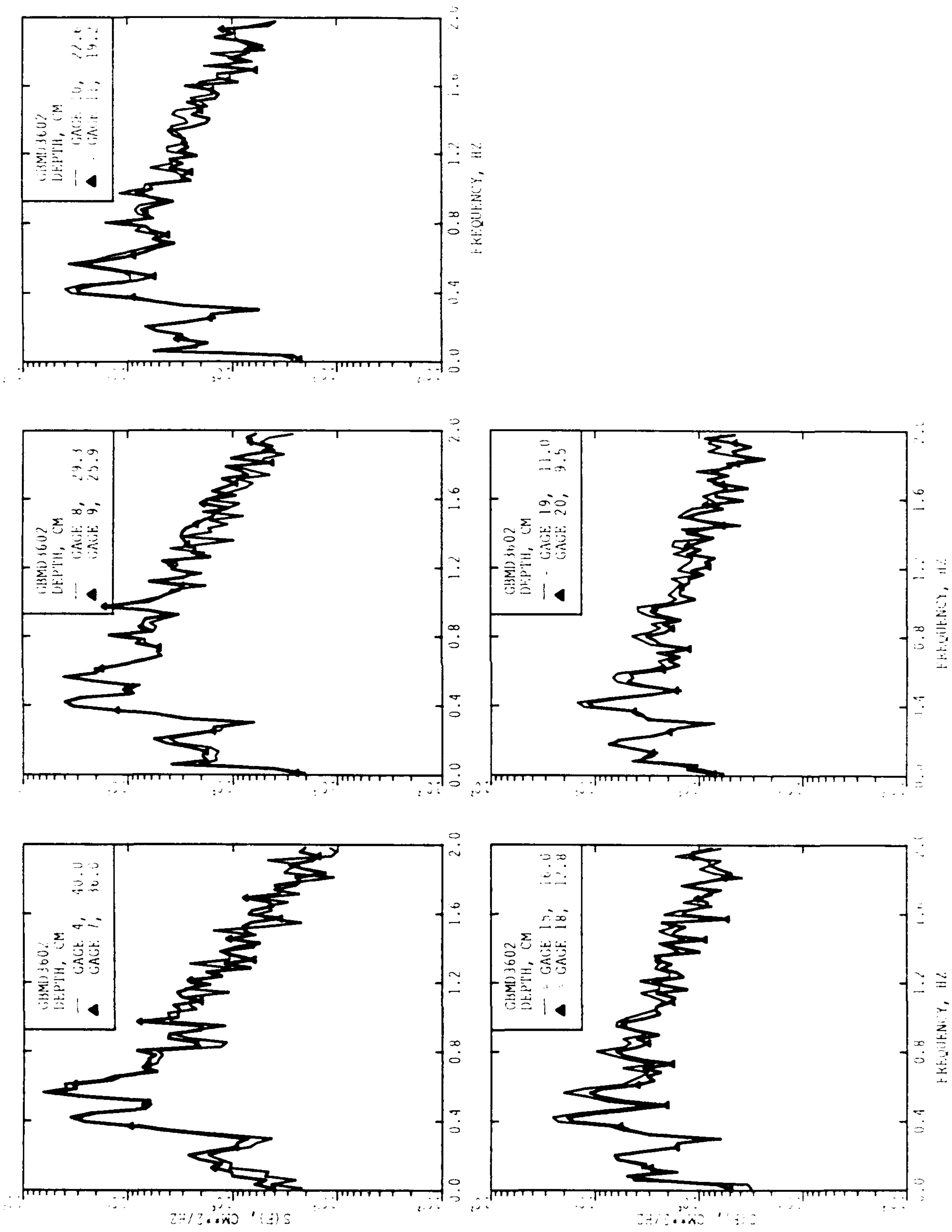
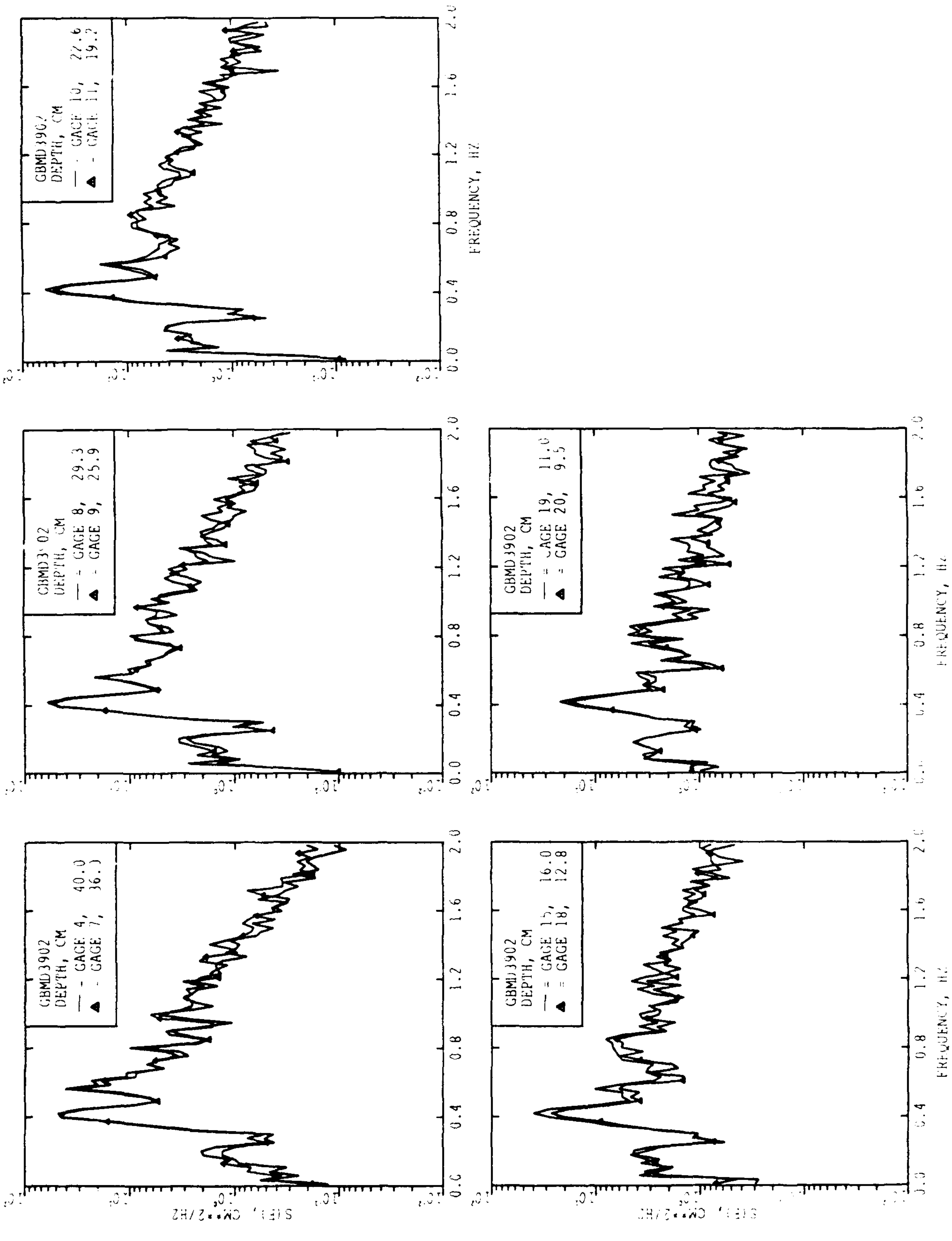
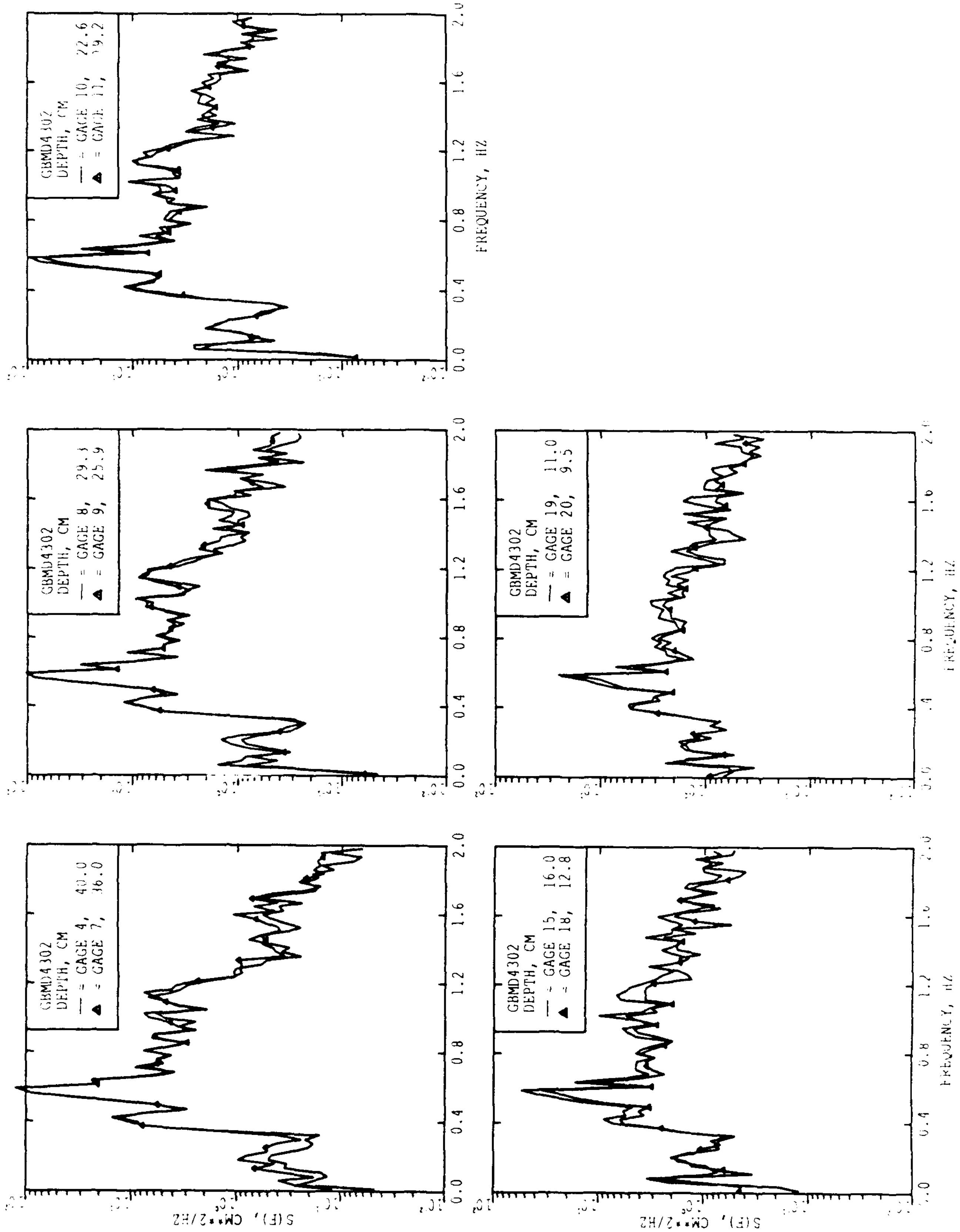
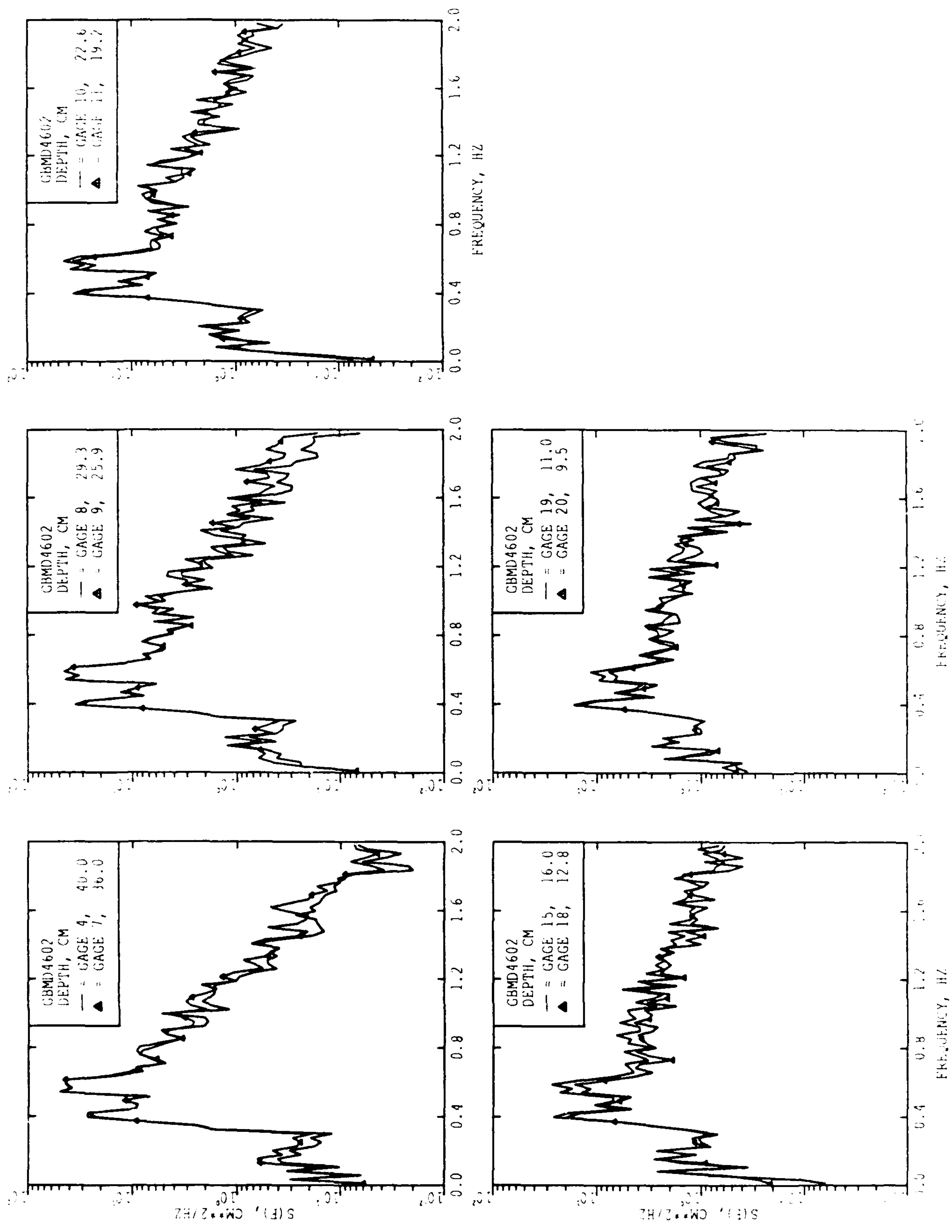
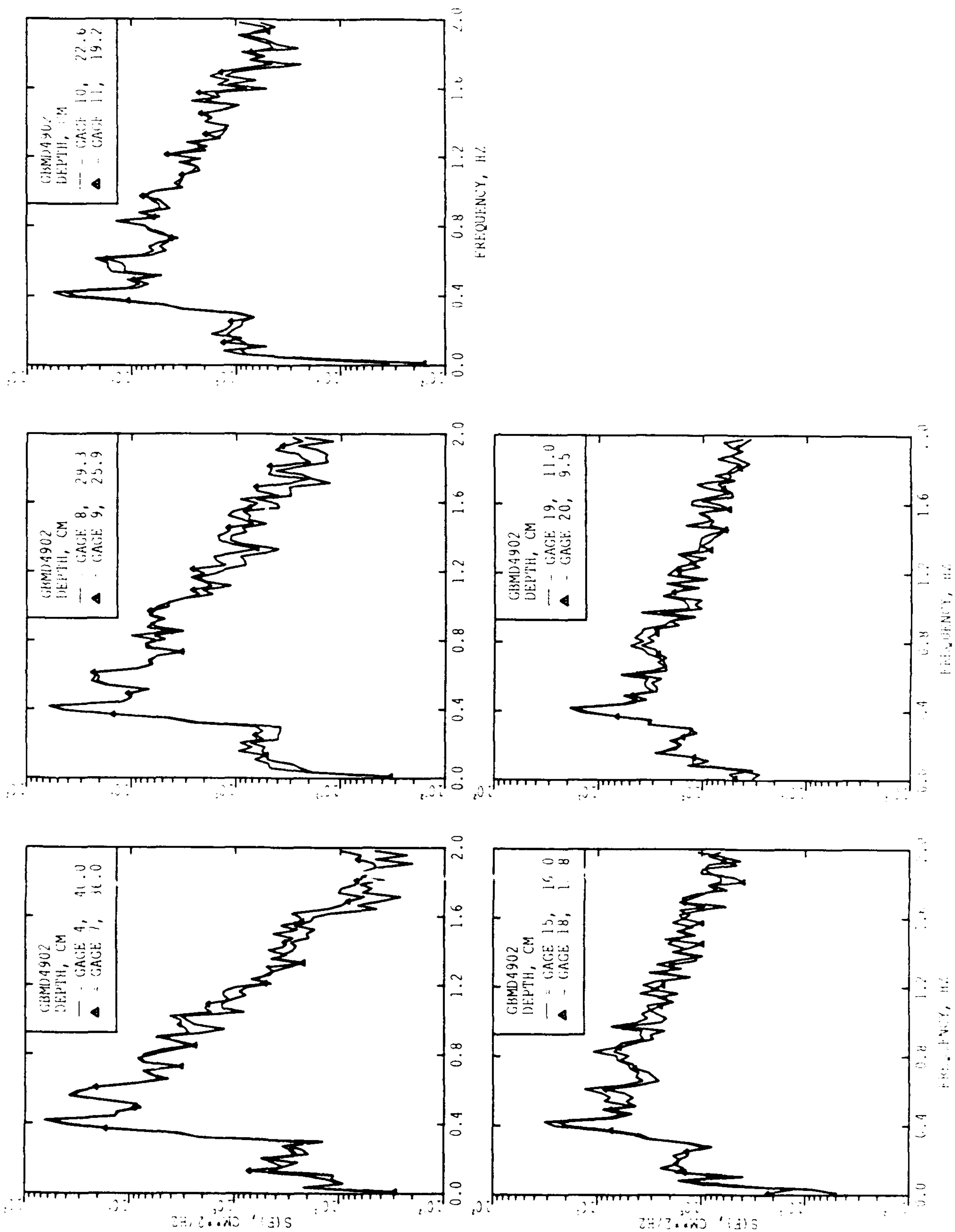
GAGE 19, 11.0
GAGE 20, 9.5
GAGE 15, 16.0
GAGE 18, 12.8
GAGE 10, 22.6
GAGE 11, 19.2
GAGE 4,
GAGE 7, 36.0
FREQUENCY, HZ
S(F), CM**2/HZ

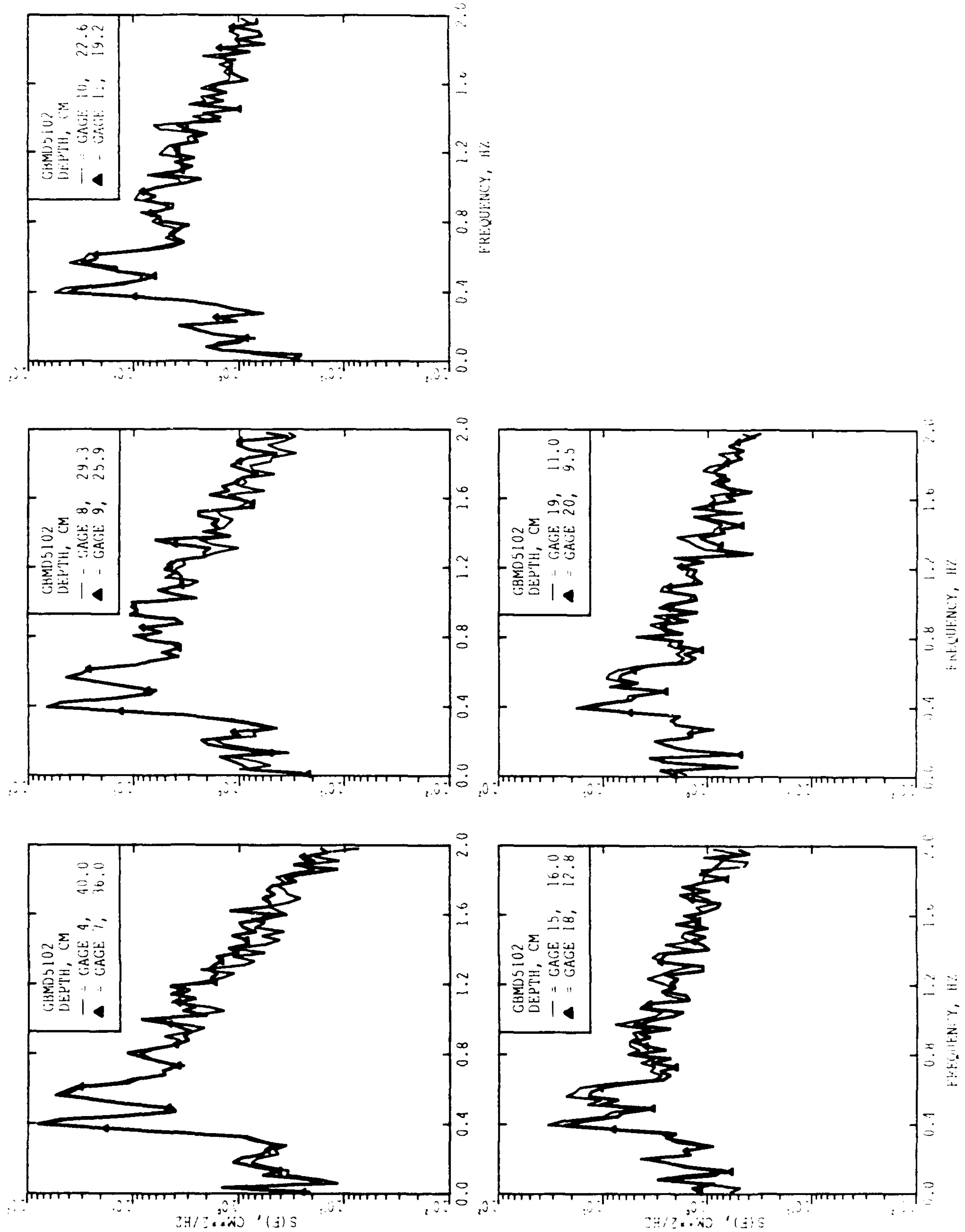

GBMD3602
DEPTH, CM
GAGE 8, 29.3
GAGE 9, 25.9
GAGE 19, 11.0
GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ


GBMD3902
DEPTH, CM
— = GAGE 4, 40.0
▲ = GAGE 7, 36.3
GBMD3902
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
DEPTH, CM
— = GAGE 10, 22.6
▲ = GAGE 11, 19.2
GBMD3902
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMD3902
DEPTH, CM
▲ = GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ

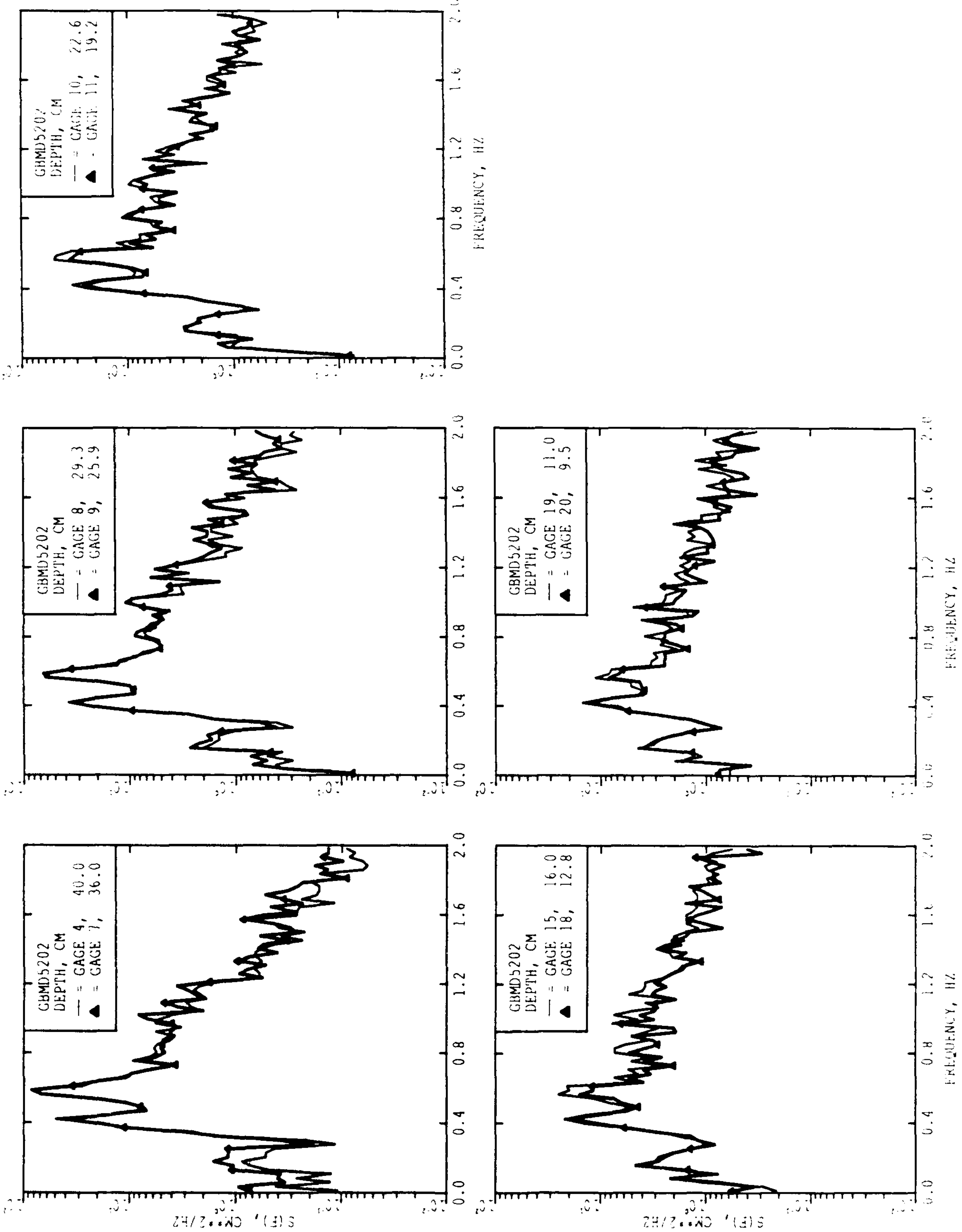

GBMD4302
DEPTH, CM
— = GAGE 4, 40.0
▲ = GAGE 7, 36.0
GBMD4302
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD4302
DEPTH, CM
— = GAGE 10, 22.6
▲ = GAGE 11, 19.2
GBMD4302
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMD4302
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ

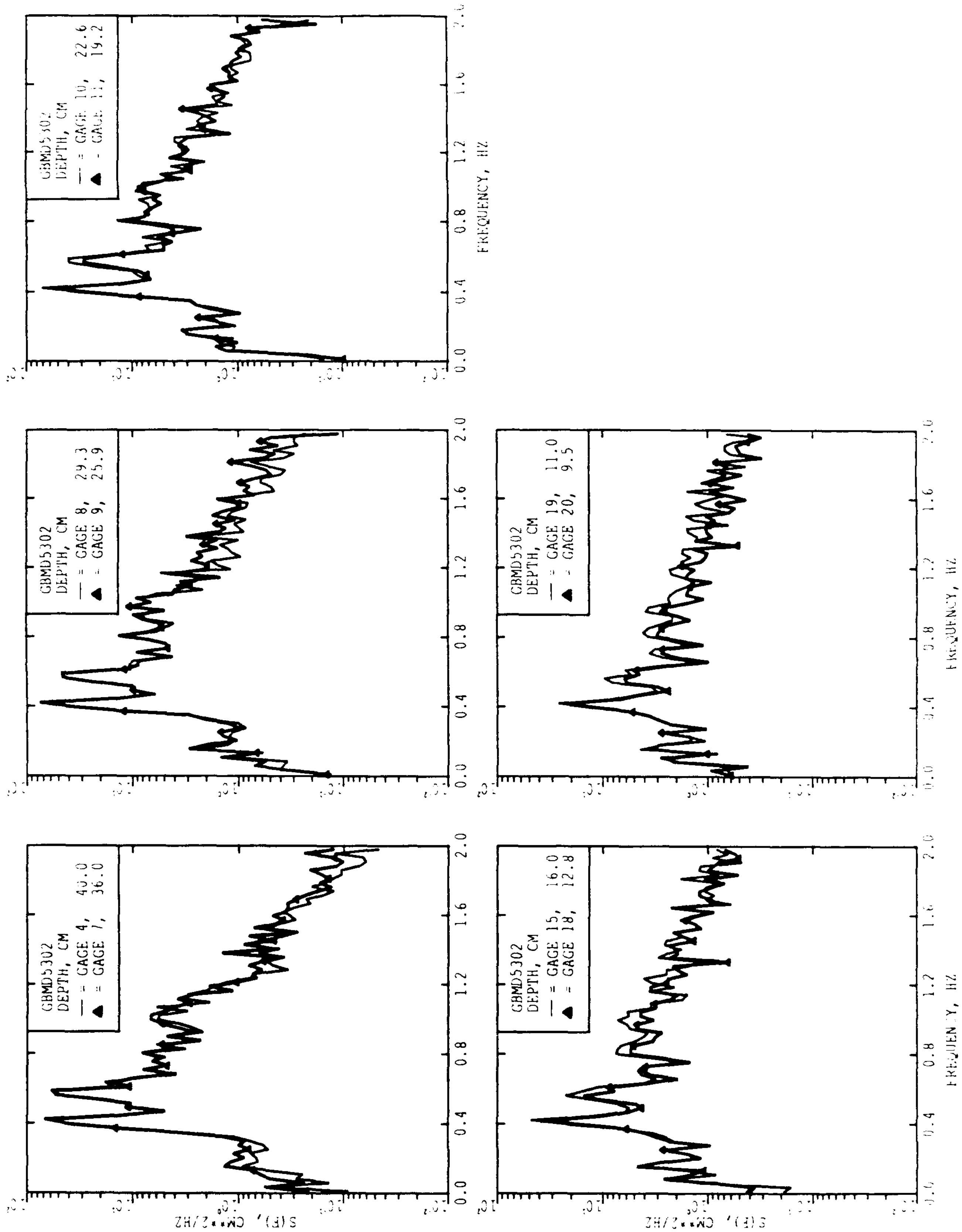

GBMD4602
DEPTH, CM
— = GAGE 4, 40.0
▲ = GAGE 7, 36.0
GBMD4602
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD4602
DEPTH, CM
— = GAGE 10, 22.6
▲ = GAGE 11, 19.2
GBMD4602
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMD4602
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ

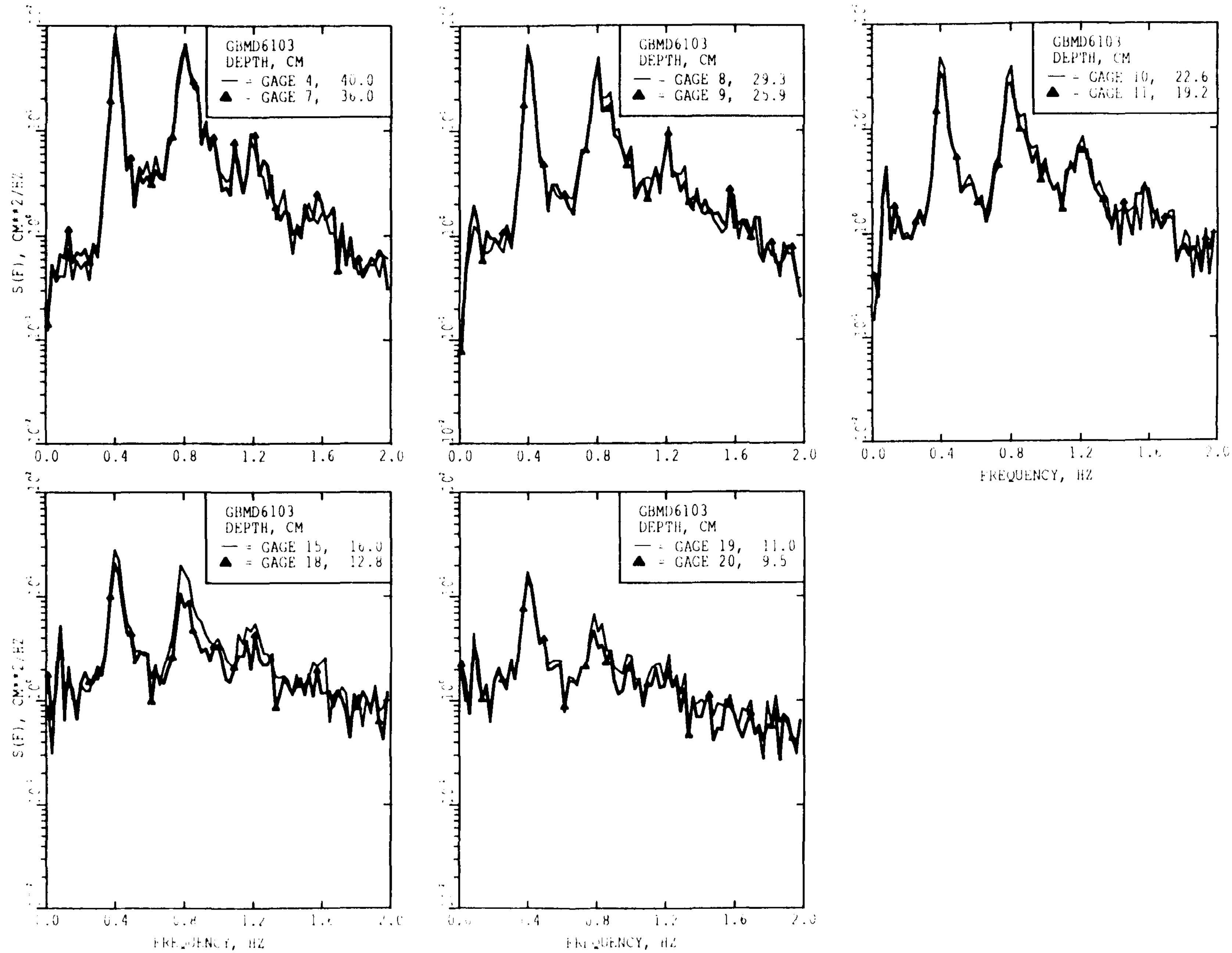

GBMD4902
DEPTH, CM
GAGE 8, 29.3
GAGE 9, 25.9
GBMD4902
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
GBMD4902
DEPTH, CM
GAGE 15,
GAGE 18,
GBMD4902
DEPTH, CM
GAGE 4,
GAGE 7,
GAGE 10, 22.6
GAGE 11, 19.2
FREQUENCY, HZ
S(E), CM**2/HZ
0.0
0.4
0.8
1.2
1.6
2.0

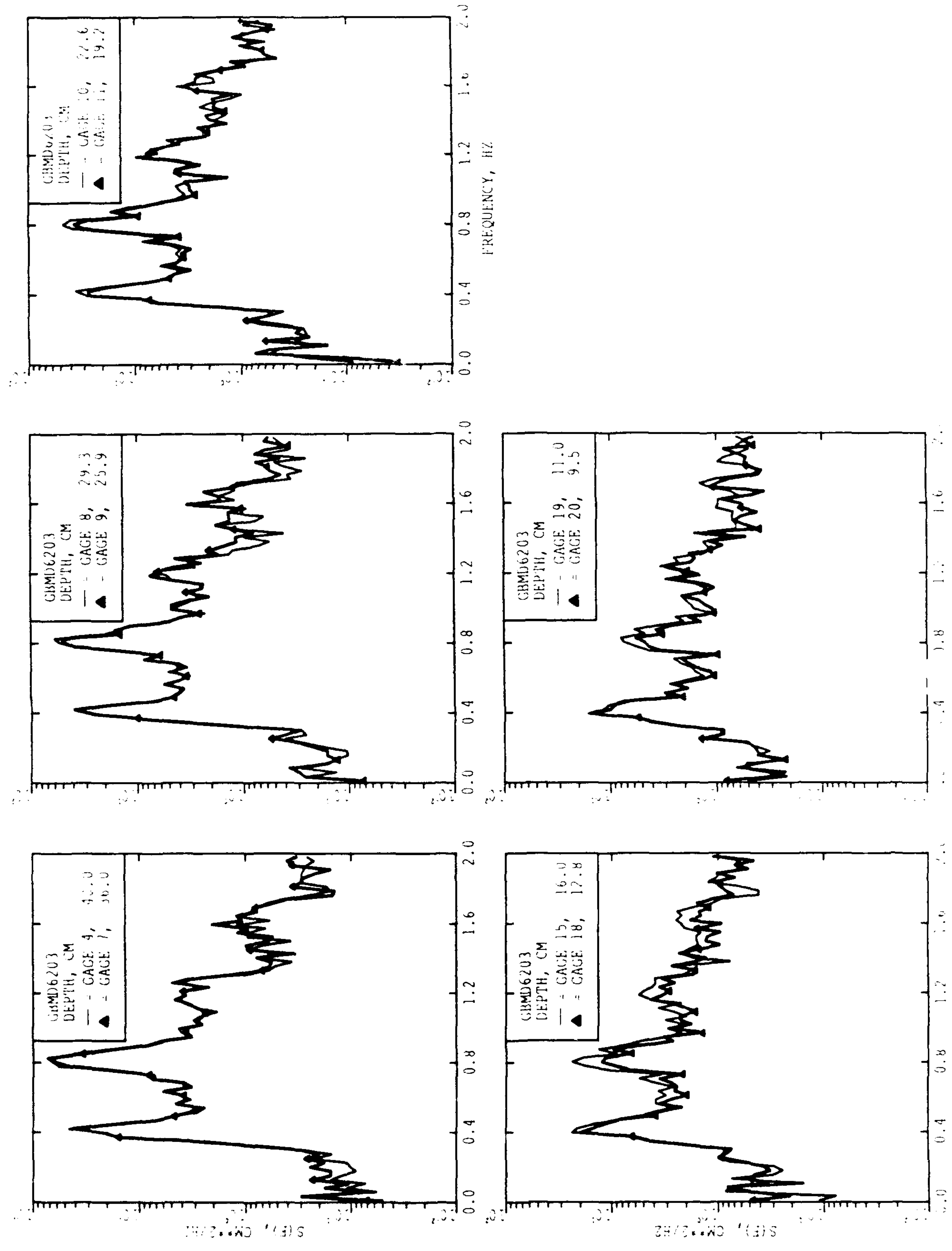


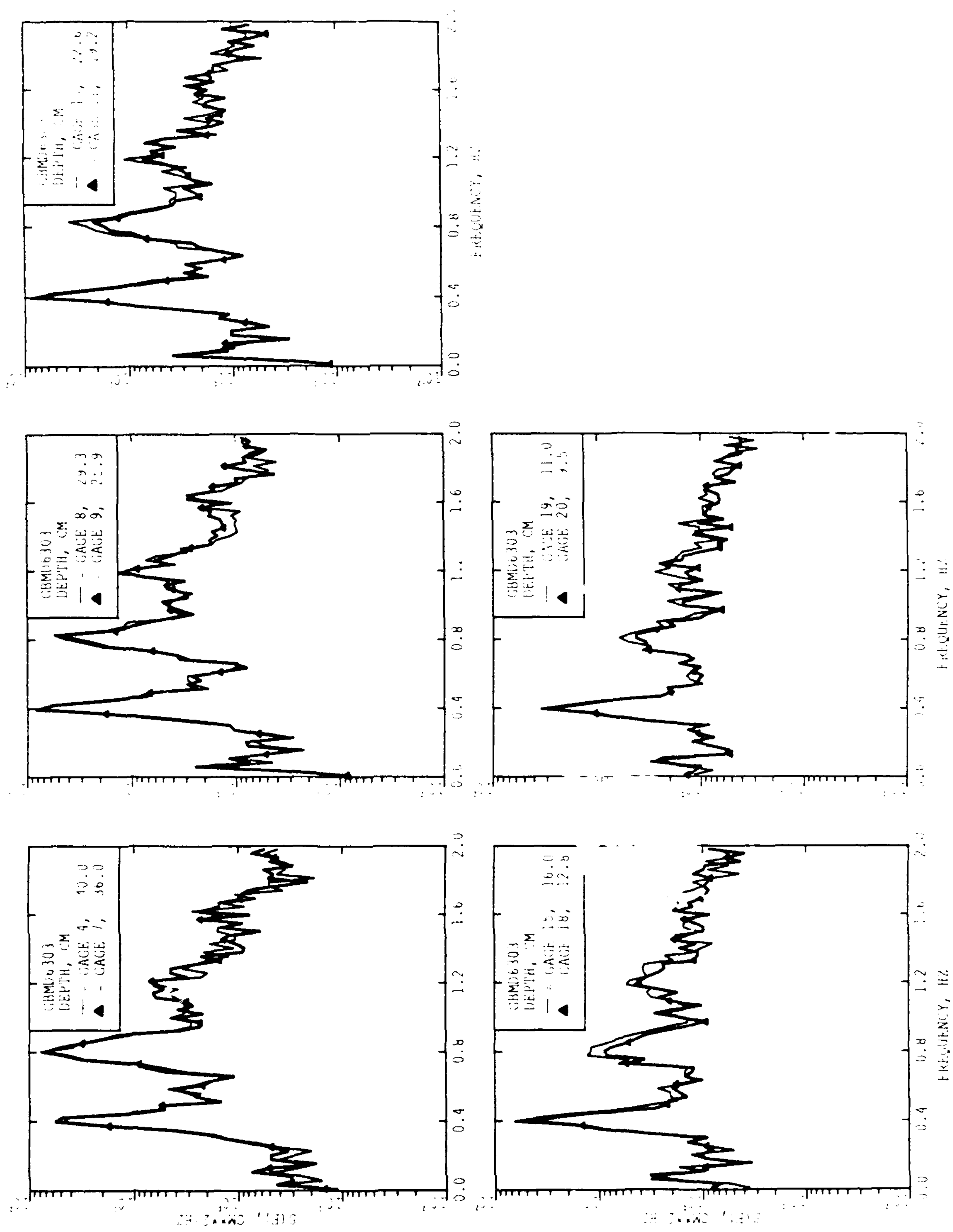
GBMD5102
DEPTH, CM
— = GAGE 4, 40.0
▲ = GAGE 7, 36.0
GBMD5102
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD5102
DEPTH, CM
GBMD5102
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 17.8
GBMD5102
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ

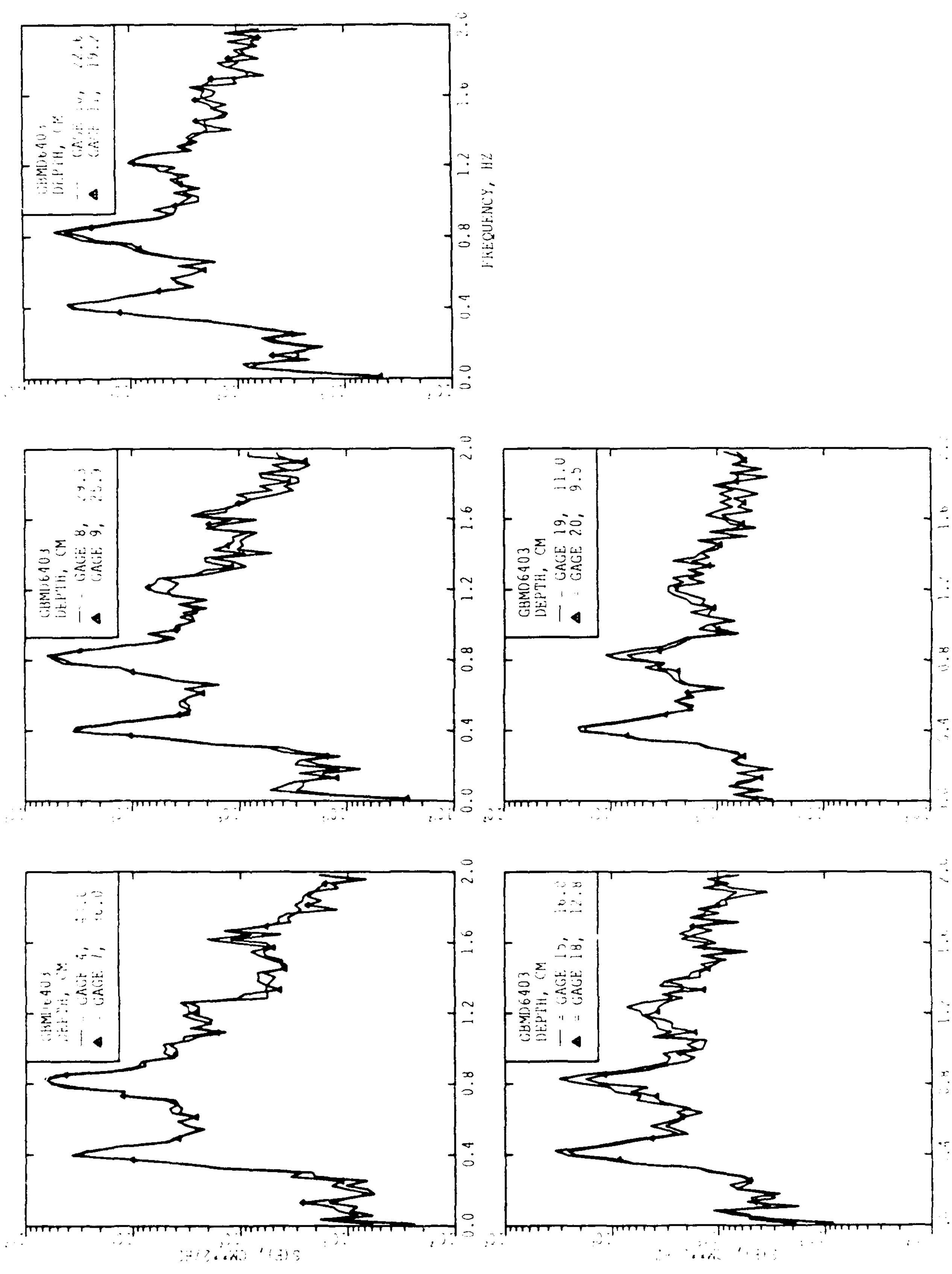

GBMD5202
DEPTH, CM
— = GAGE 4, 40.0
▲ = GAGE 7, 36.0
GBMD5202
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD5202
DEPTH, CM
— = GAGE 10, 22.6
▲ = GAGE 11, 19.2
GBMD5202
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMD5202
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ

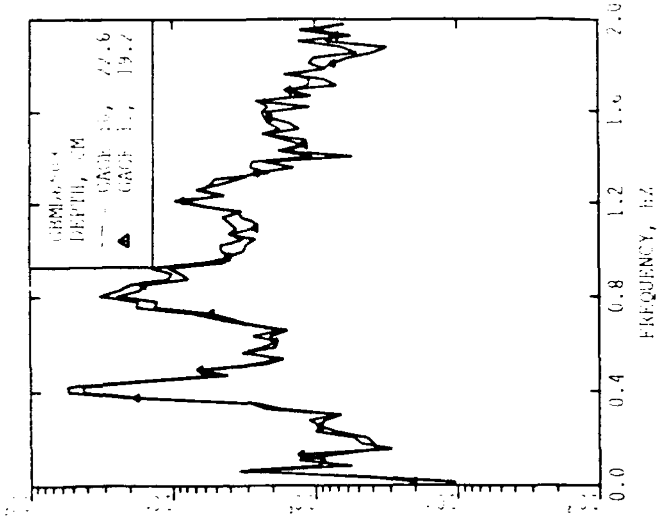

GBMD5302
DEPTH, CM
— = GAGE 4, 40.0
▲ = GAGE 7, 36.0
GBMD5302
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
DEPTH, CM
— = GAGE 10, 22.6
GBMD5302
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMD5302
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ

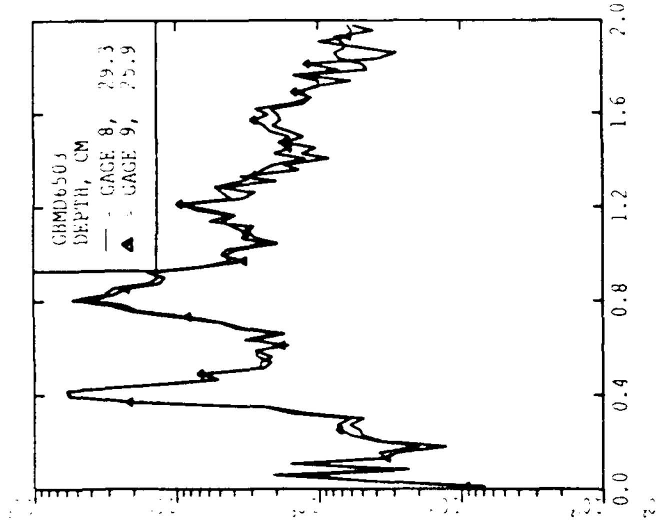

GBMD6103
DEPTH, CM
— = GAGE 4, 40.0
▲ - GAGE 7, 36.0
GBMD6103
DEPTH, CM
— - GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD6103
DEPTH, CM
— - GAGE 10, 22.6
▲ - GAGE 11, 19.2
GBMD6103
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMD6103
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
S(F), CM**2/HZ
FREQUENCY, HZ

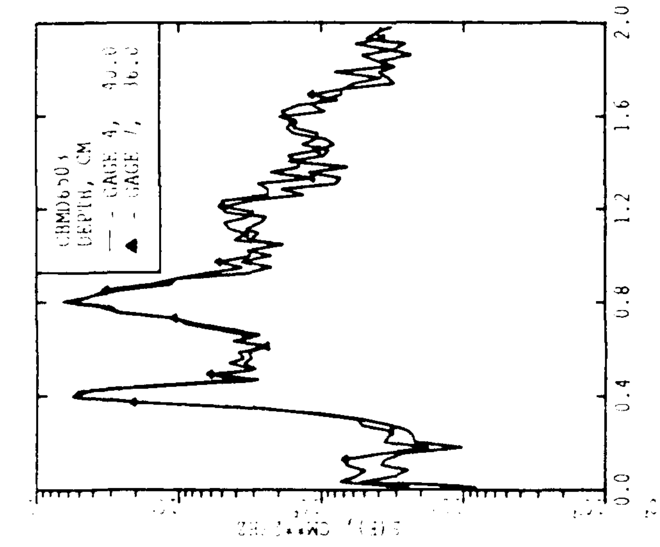

GBMD6203
DEPTH, CM
GAGE 4, 40.0
GAGE 7, 36.0
GAGE 8, 29.3
GAGE 9, 25.9
GAGE 15, 16.0
GAGE 18, 12.8
GAGE 19, 11.0
GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ

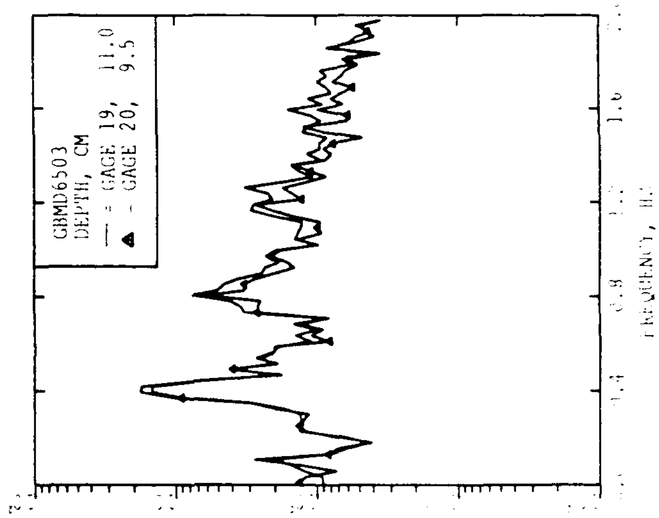

GBMD6303
DEPTH, CM
GAGE 4, 40.0
GAGE 7, 36.0
GAGE 8
GAGE 9
GAGE 15, 16.0
GAGE 18, 12.5
GAGE 19, 11.0
GAGE 20
FREQUENCY, HZ
SPEC, CM**2-HZ

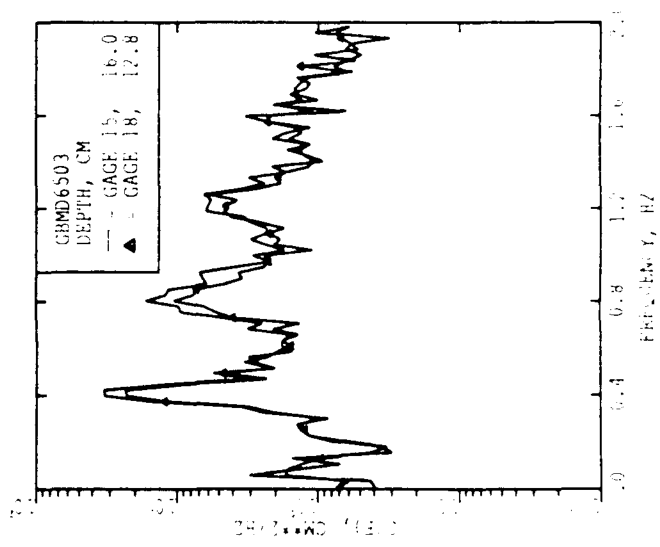

GBMD6403
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
— = GAGE 15, 16.8
▲ = GAGE 18, 12.8
FREQUENCY, HZ
0.0
0.4
0.8
1.2
1.6
2.0

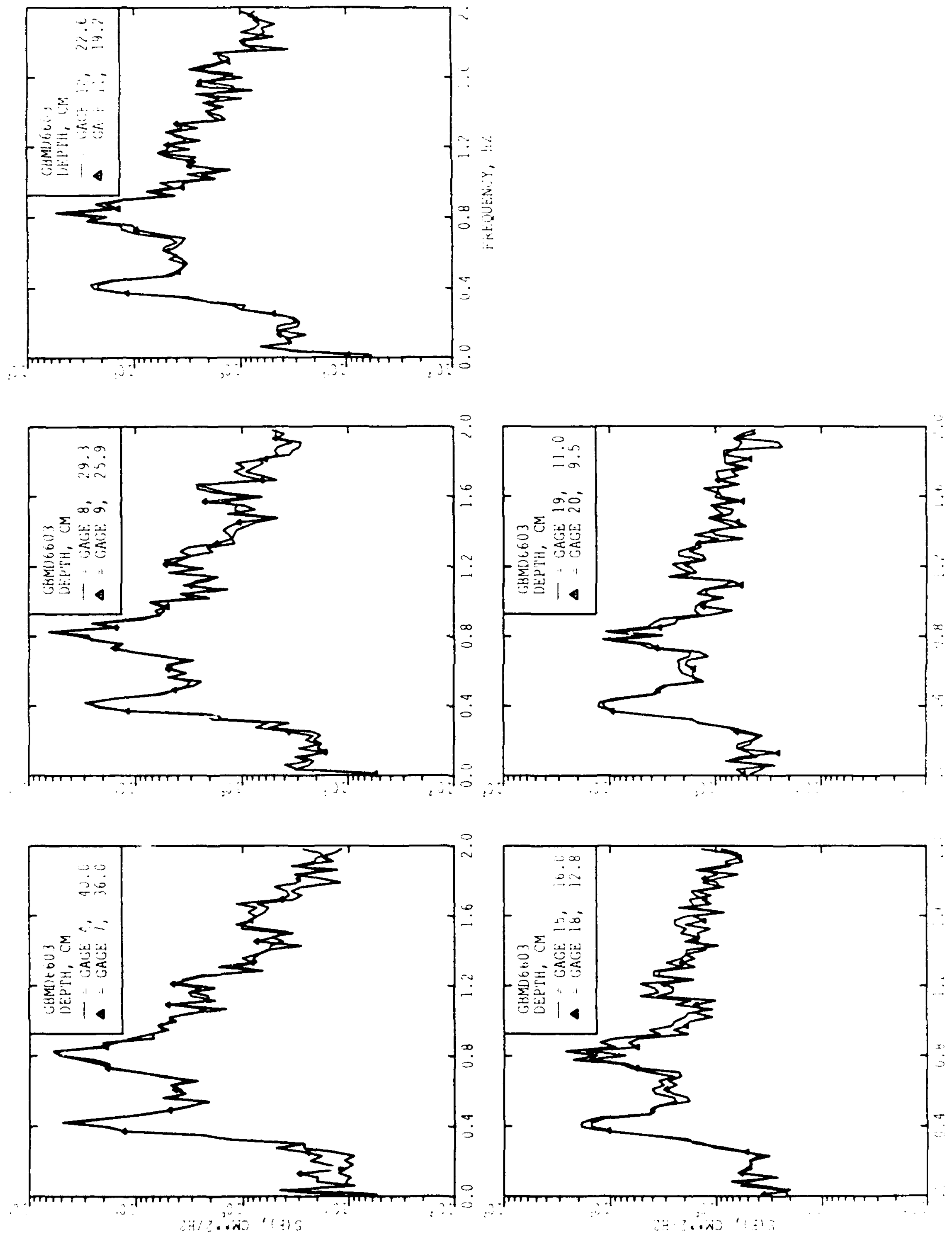

FREQUENCY, HZ

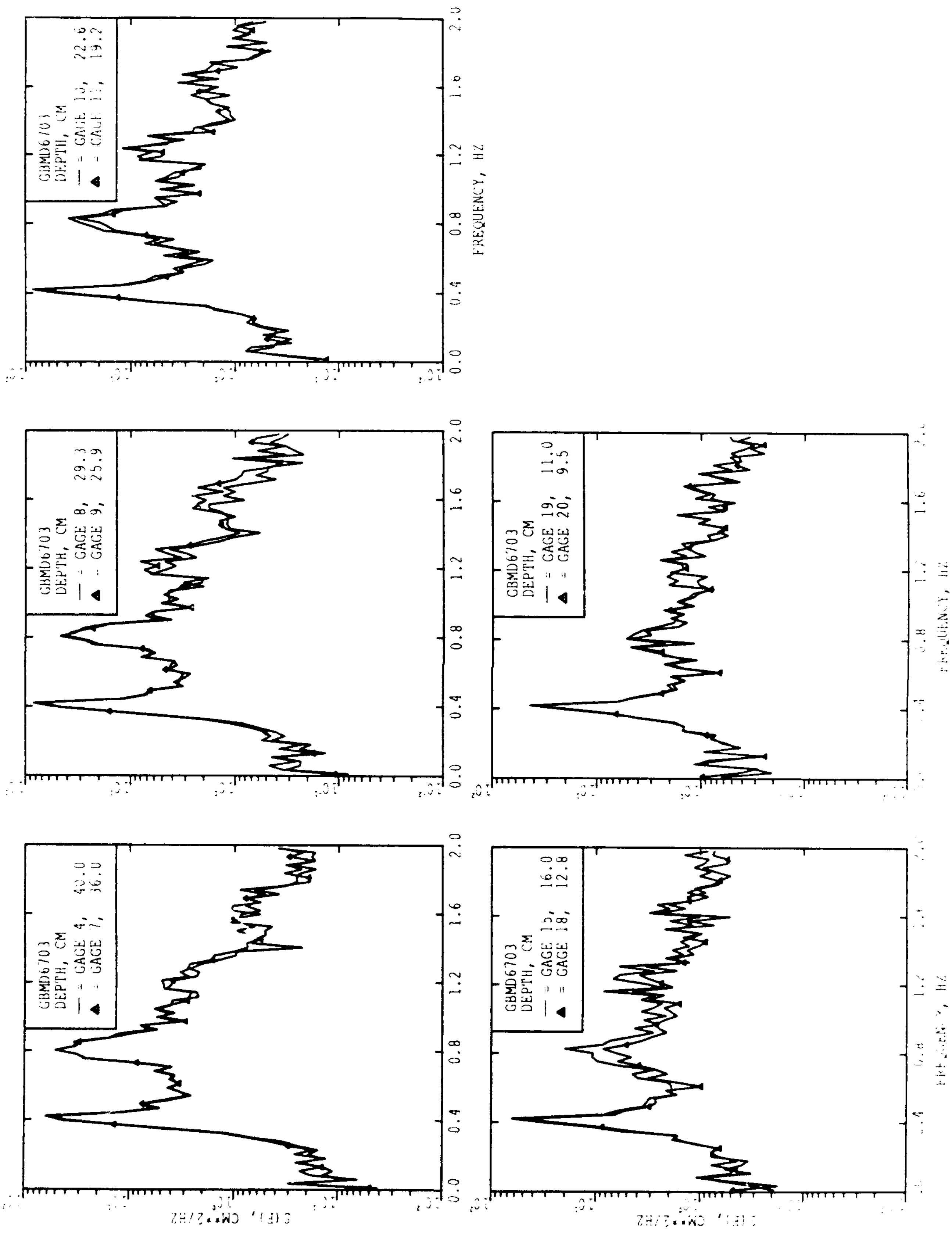

GBMD6503
DEPTH, CM
GAGE 8, 29.3
GAGE 9, 25.9

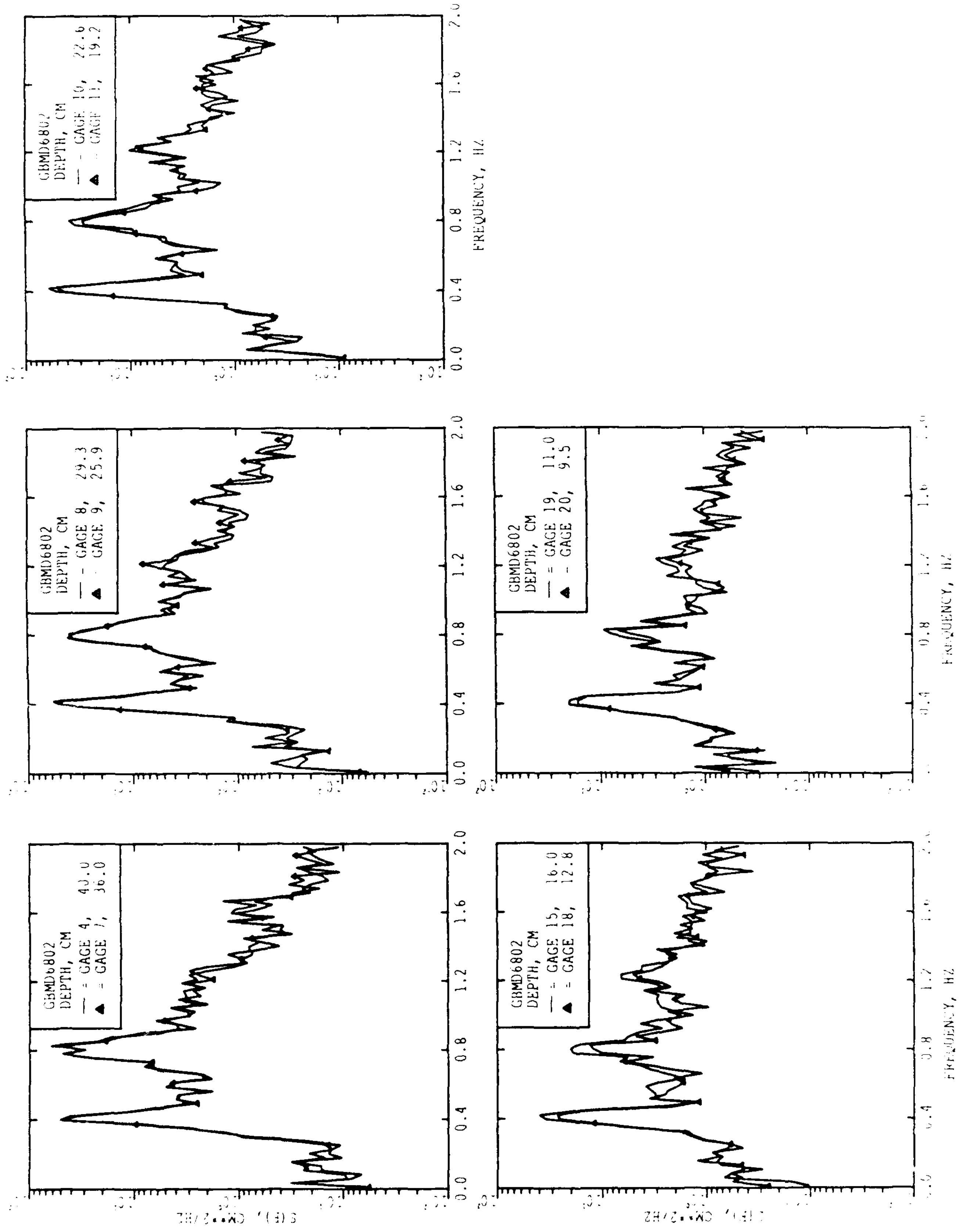



GBMD6503
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5

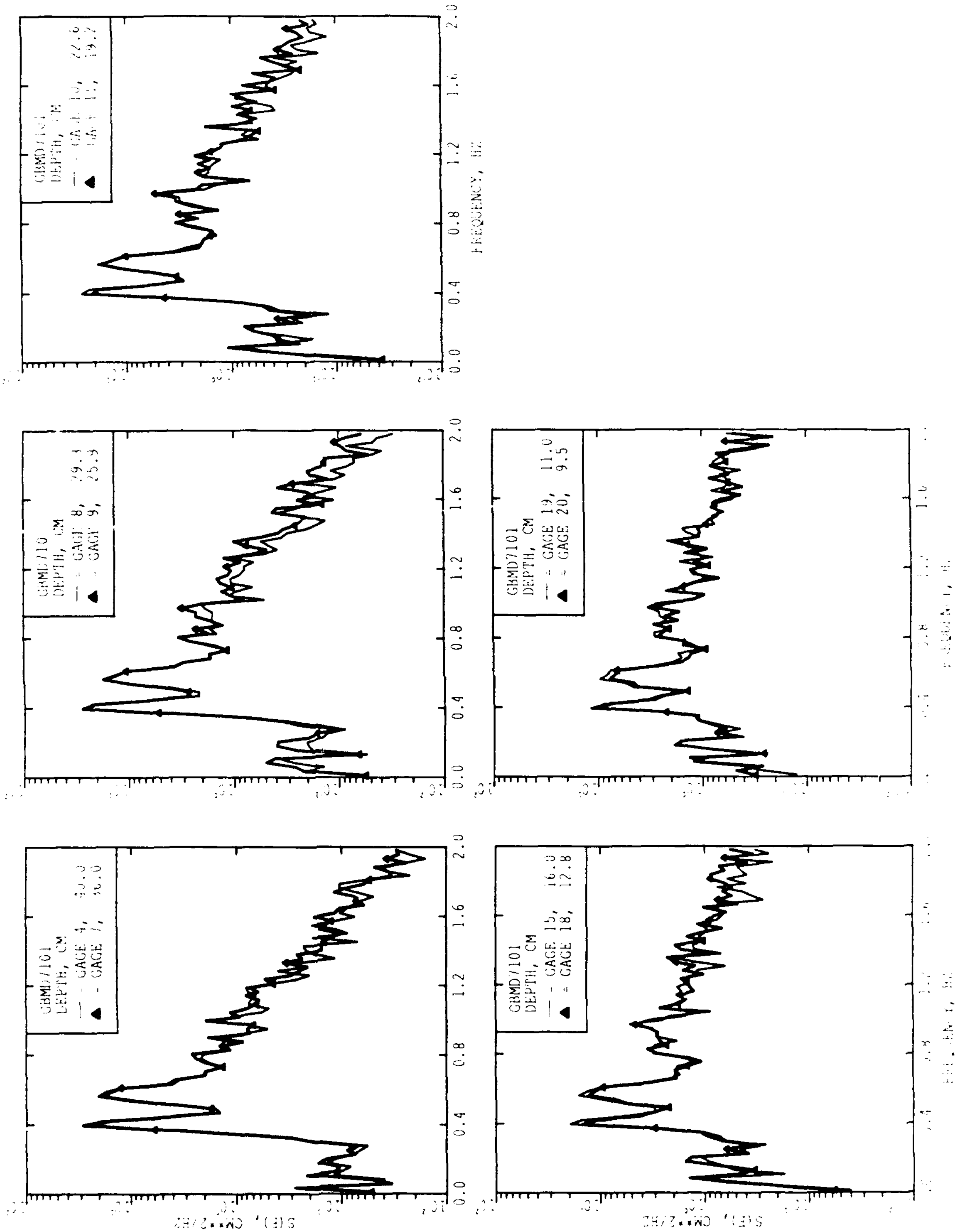

GBMD6503
DEPTH, CM
GAGE 15, 16.0
GAGE 18, 12.8

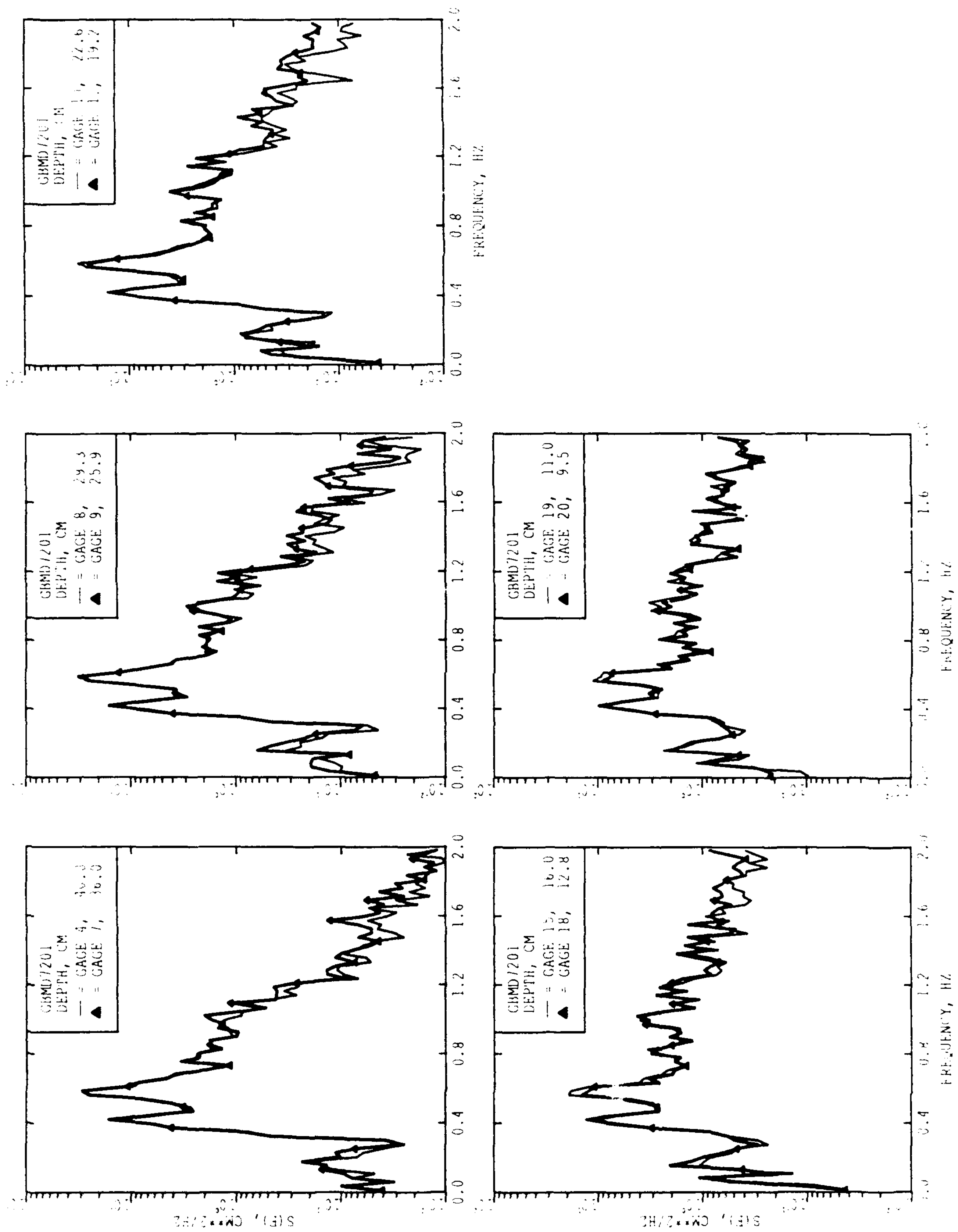

GBMD6603
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD6603
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
GBMD6603
DEPTH, CM
FREQUENCY, HZ

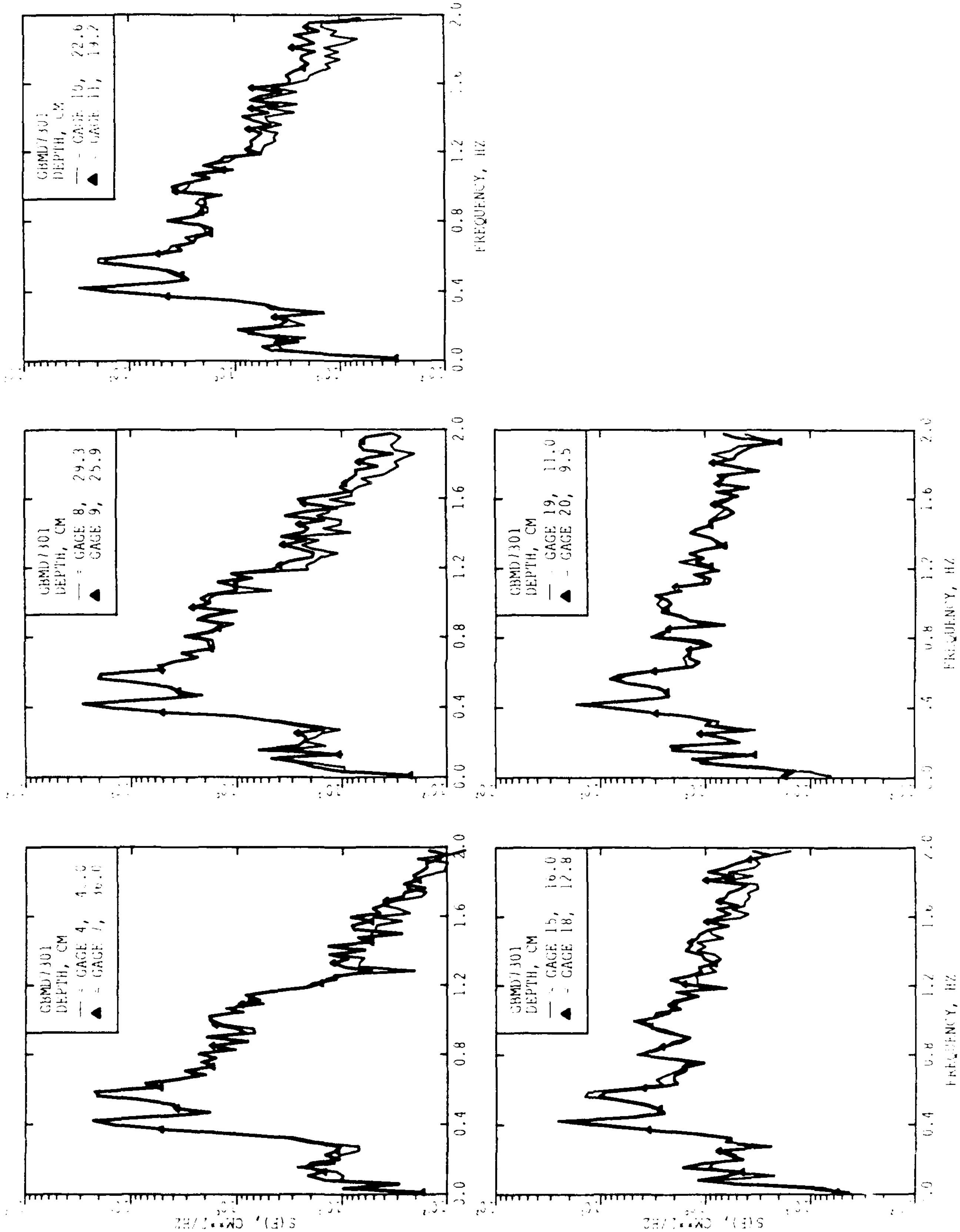

GBMD6703
DEPTH, CM
— = GAGE 4, 40.0
▲ = GAGE 7, 36.0
GBMD6703
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD6703
DEPTH, CM
— = GAGE 10, 22.6
▲ = GAGE 11, 19.2
GBMD6703
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMD6703
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ



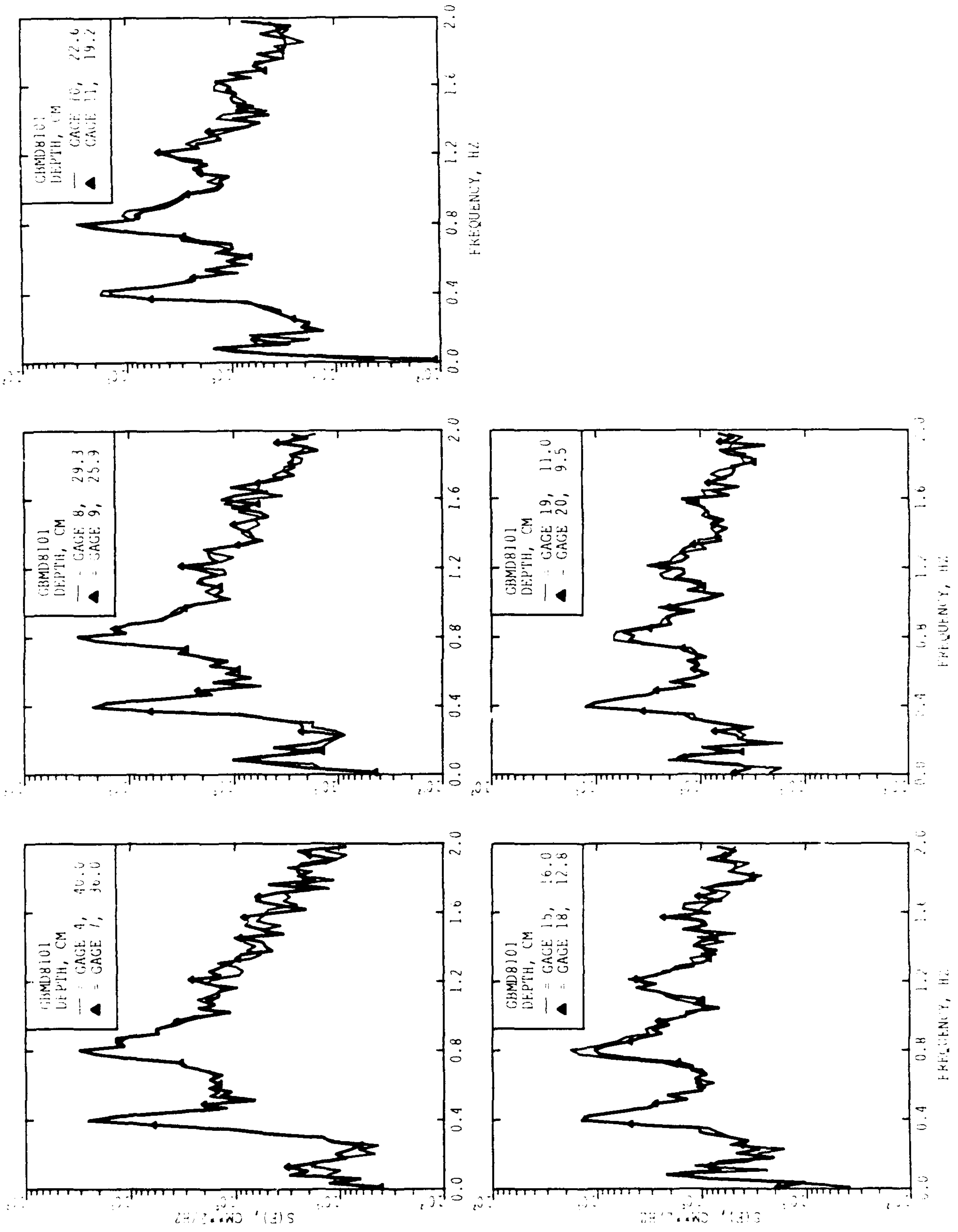
GBMD6802
DEPTH, CM
— = GAGE 4, 40.0
▲ = GAGE 7, 36.0
GBMD6802
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD6802
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMD6802
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ

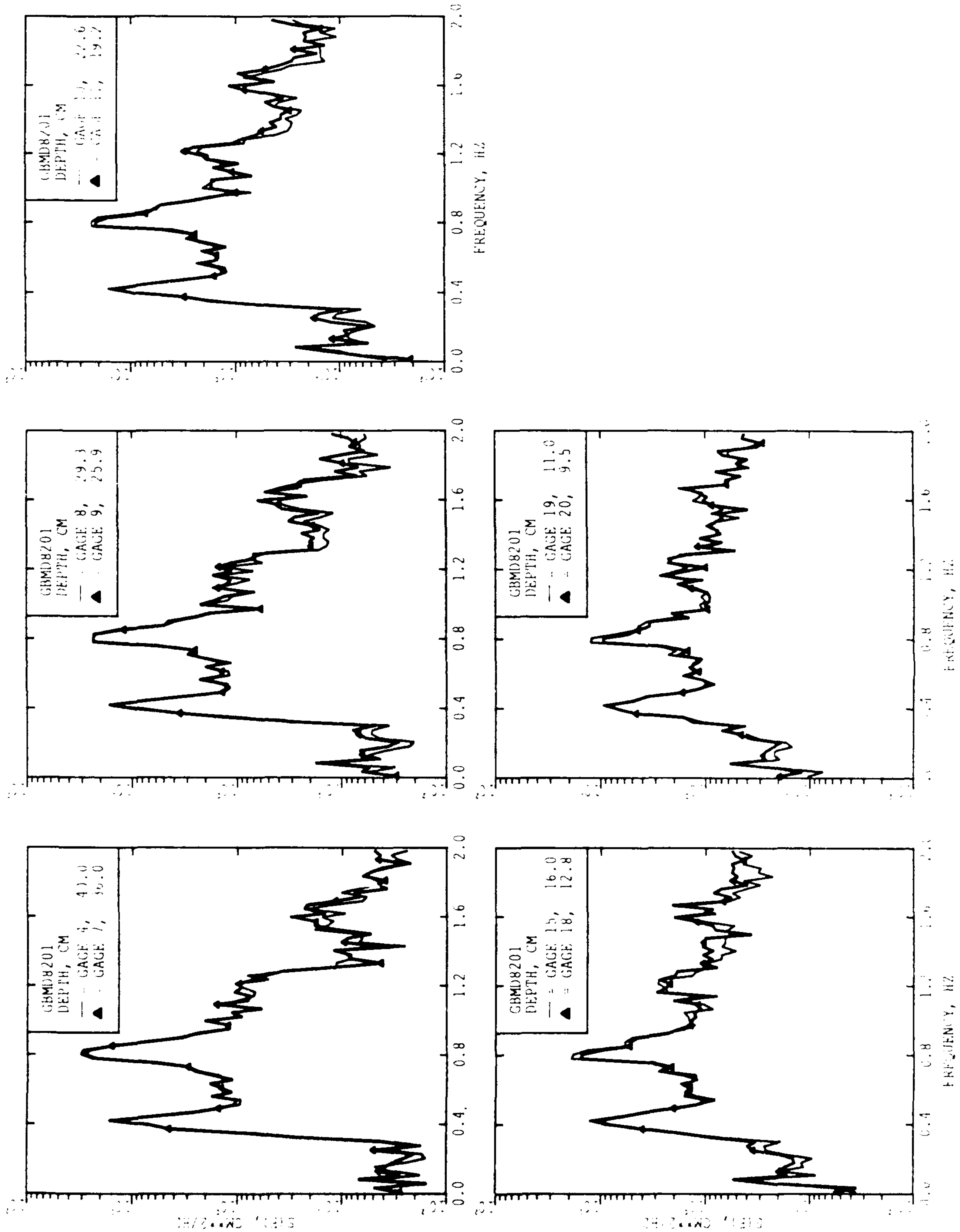

GBMD7101
DEPTH, CM
— = GAGE 8, 29.4
▲ = GAGE 9, 25.9
GBMD7101
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMD7101
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ

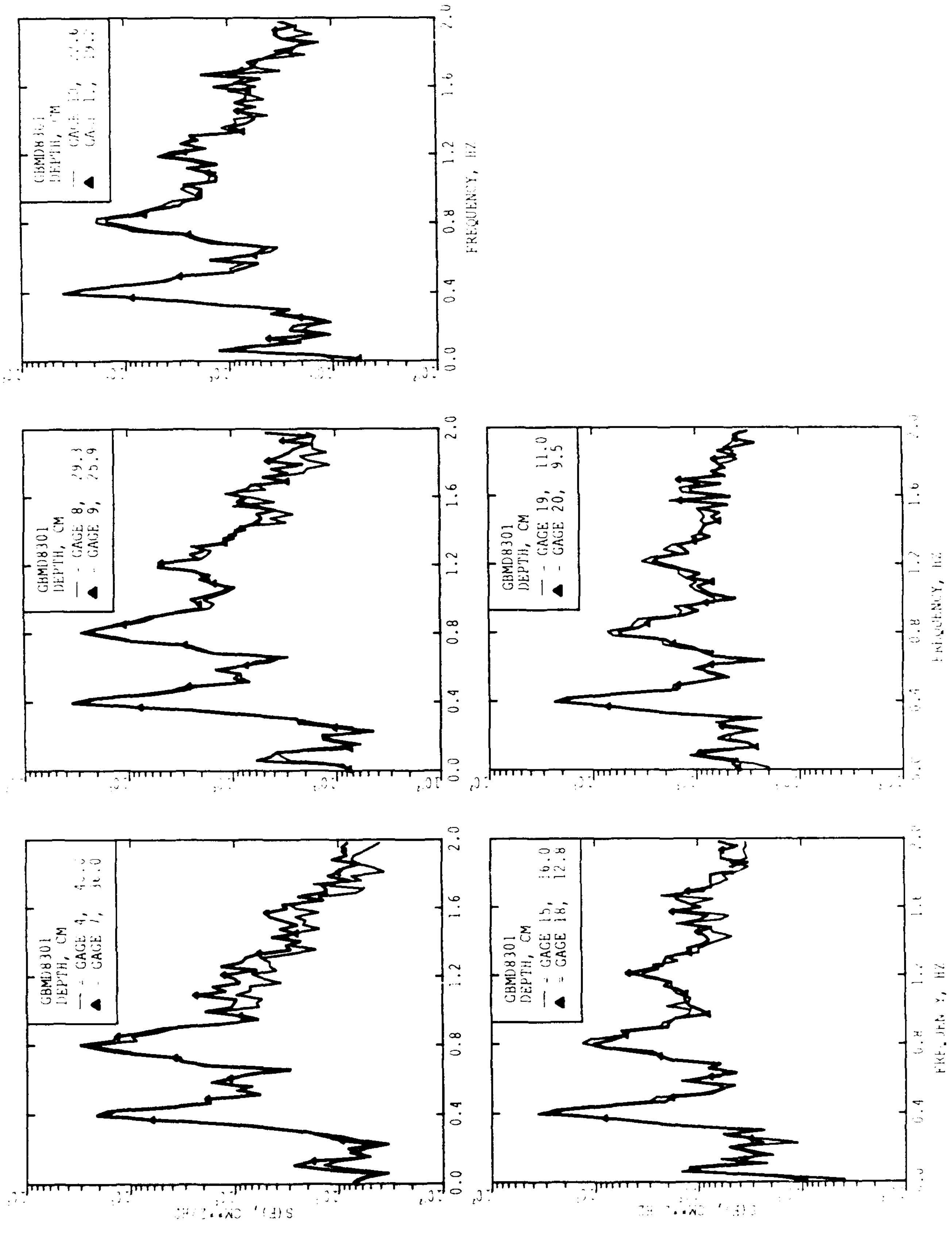

GBMD7201
DEPTH, CM
= GAGE 8, 29.3
= GAGE 9, 25.9
= GAGE 19, 11.0
= GAGE 20, 9.5
= GAGE 18, 12.8
FREQUENCY, HZ
S(F), CM**2/HZ



GBMD7301
DEPTH, CM
GAGE 8, 29.3
GAGE 9, 25.9
GBMD7301
DEPTH, CM
GAGE 15,
GAGE 18, 12.8
GBMD7301
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
GBMD7301
DEPTH, CM
FREQUENCY, HZ


GBMD8101
DEPTH, CM
GAGE 10, 22.6
GAGE 11, 19.2
GBMD8101
DEPTH, CM
GAGE 8, 29.3
GAGE 9, 25.9
GBMD8101
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
GBMD8101
DEPTH, CM
GAGE 4, 40.0
GAGE 7, 36.0
GBMD8101
DEPTH, CM
GAGE 15, 16.0
GAGE 18, 12.8
FREQUENCY, HZ
S(F), CM**2/HZ


GBMD8201
DEPTH, CM
— = GAGE 4, 41.0
▲ = GAGE 7, 35.0
GBMD8201
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD8201
DEPTH, CM
GBMD8201
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMD8201
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ


GBMD8301
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD8301
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
GBMD8301
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMD8301
DEPTH, CM
FREQUENCY, HZ
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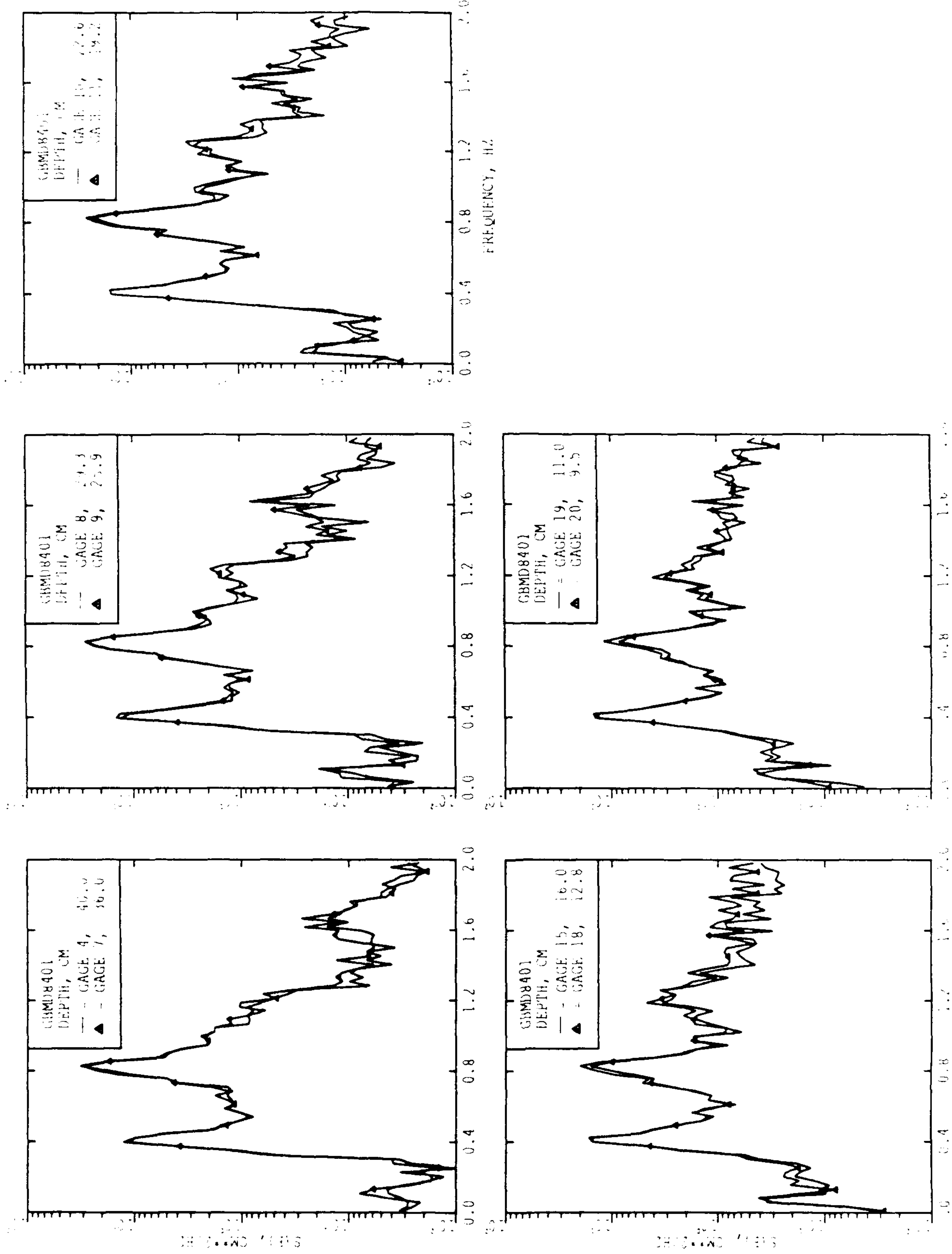
0.4
0.8
1.2
1.6
2.0


GBMD8401
DEPTH, CM
— = GAGE 4, 40.0
▲ = GAGE 7, 36.0
GBMD8401
DEPTH, CM
— = GAGE 8,
▲ = GAGE 9, 24.9
GBMD8401
DEPTH, CM
GBMD8401
DEPTH, CM
— = GAGE 15, 16.0
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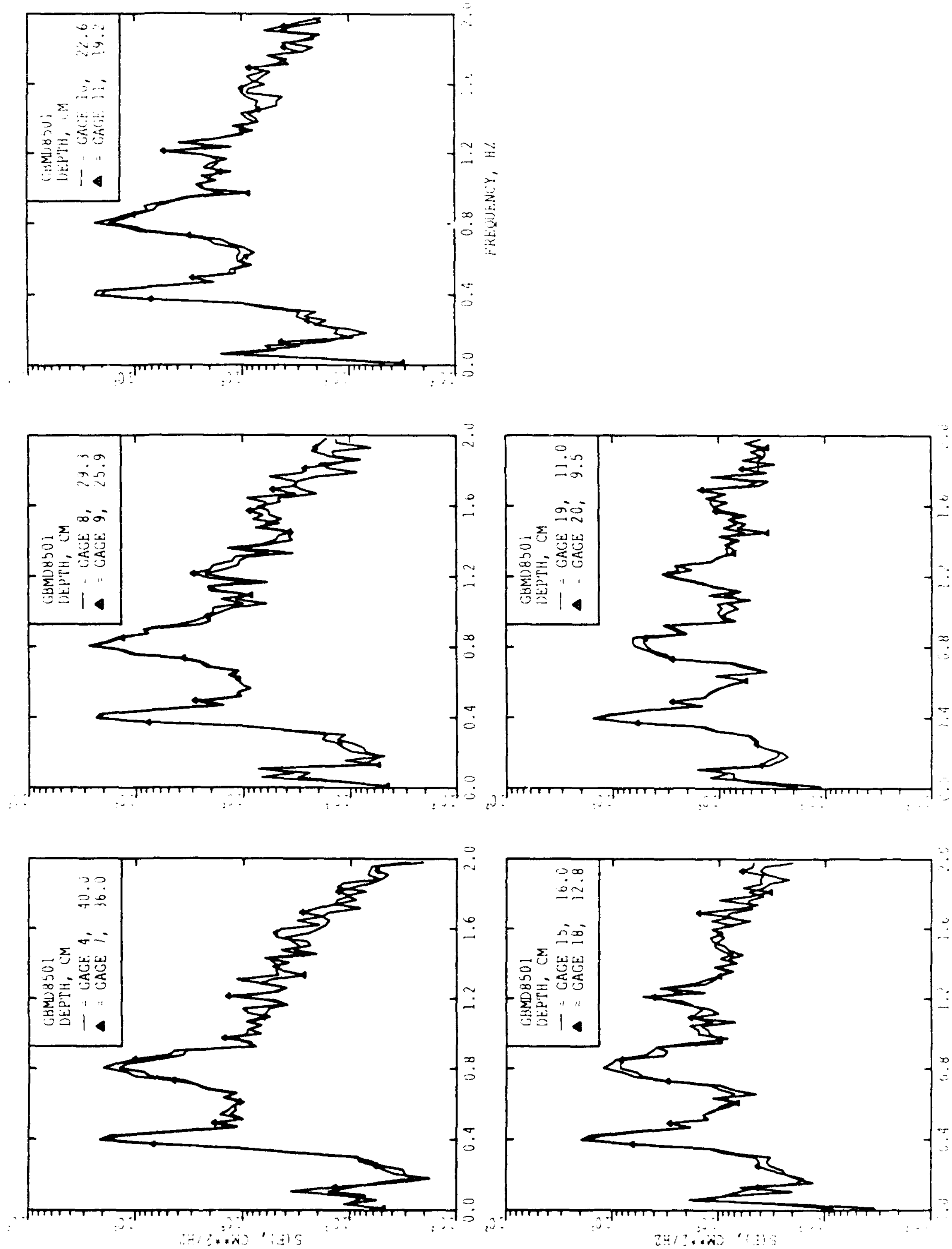
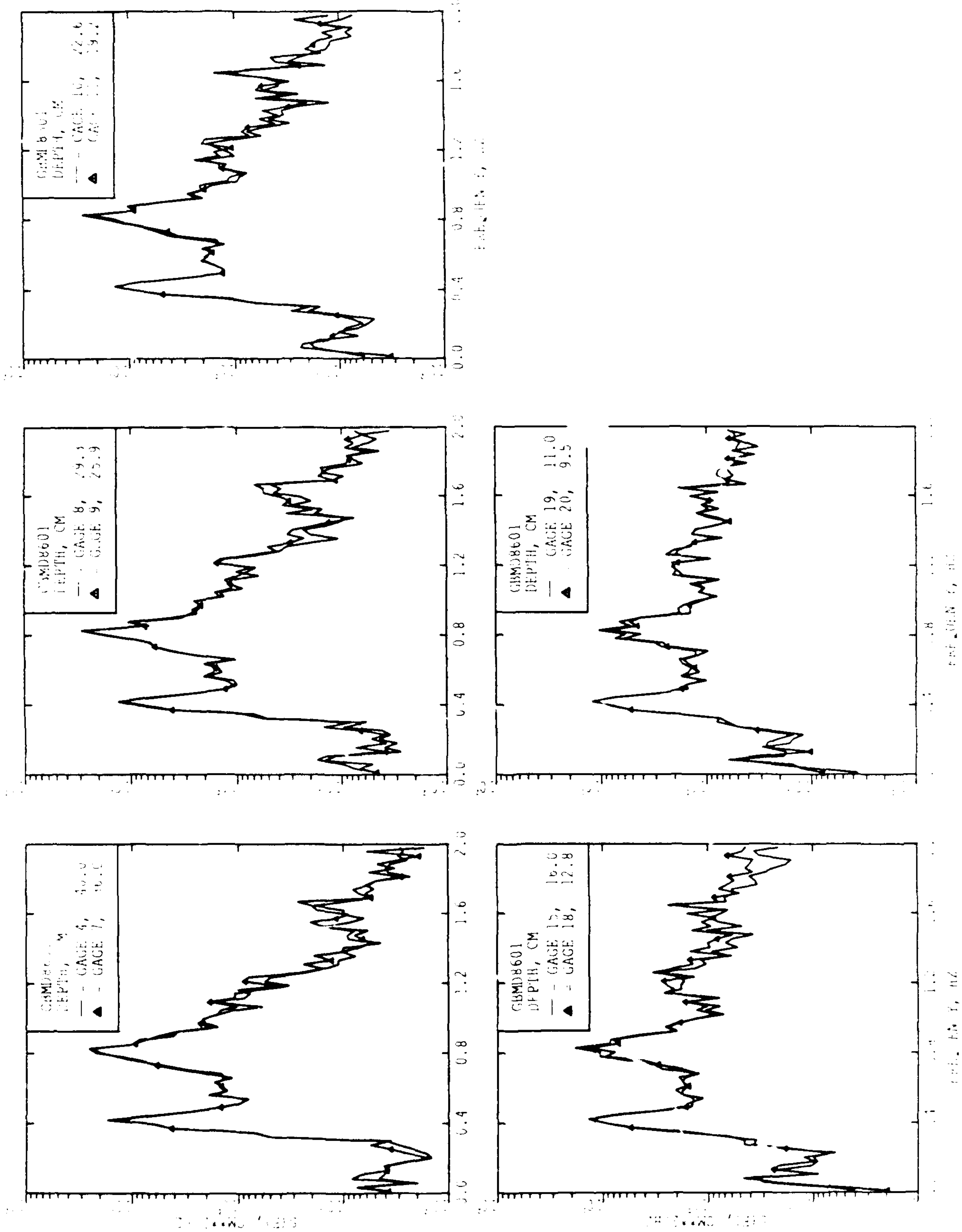
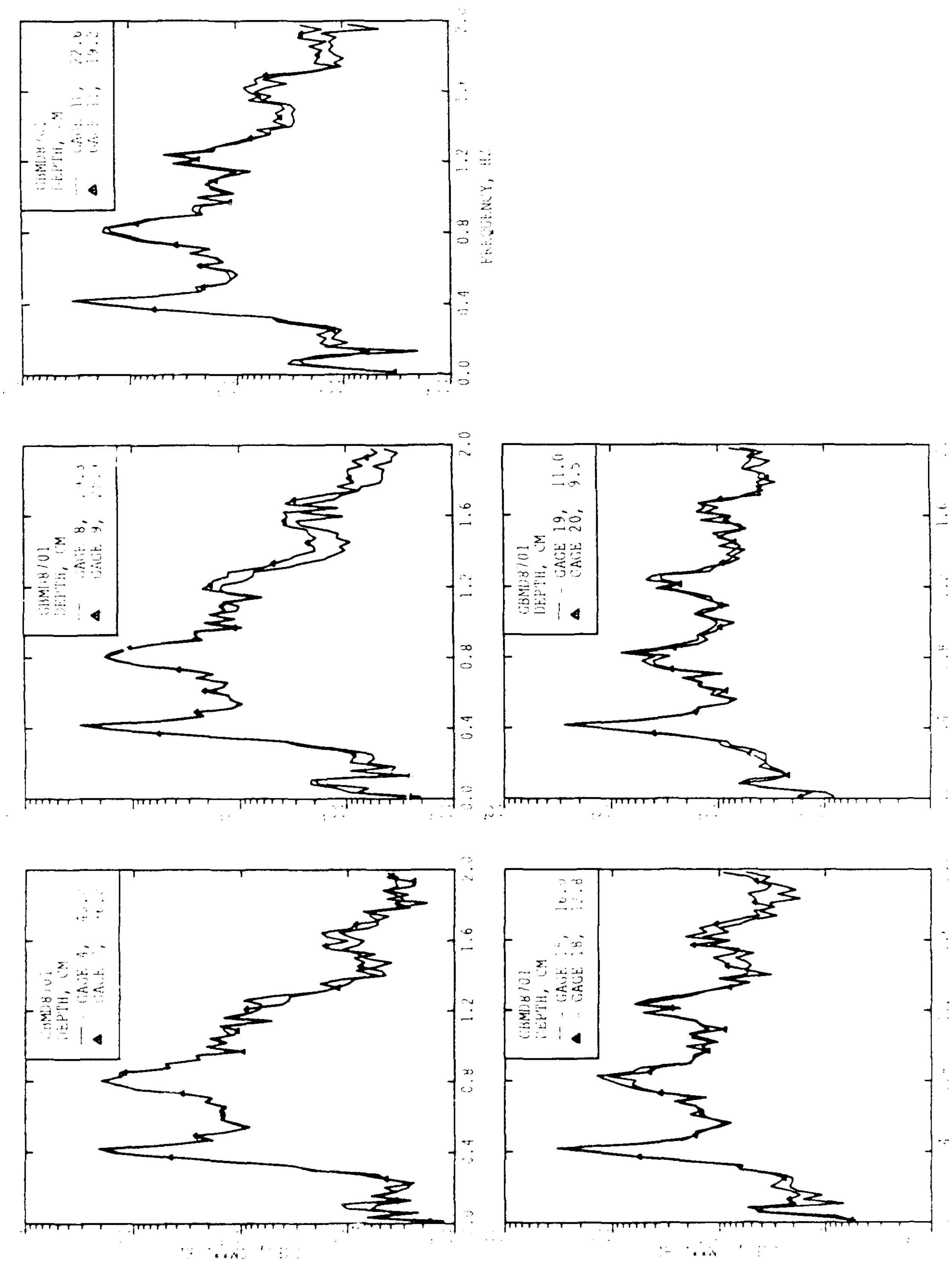
GBMD8401
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ

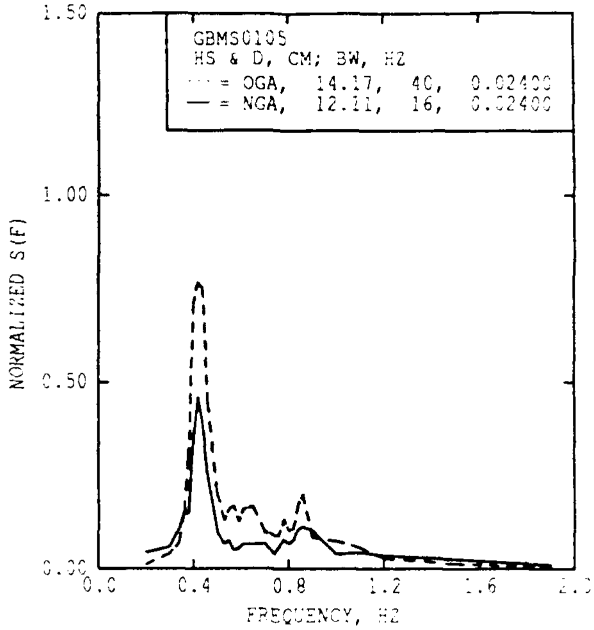

GBMD8501
DEPTH, CM
— = GAGE 4, 40.0
▲ = GAGE 7, 36.0
GBMD8501
DEPTH, CM
— = GAGE 8, 29.3
▲ = GAGE 9, 25.9
GBMD8501
DEPTH, CM
▲ = GAGE 11, 19.2
GBMD8501
DEPTH, CM
— = GAGE 15, 16.0
▲ = GAGE 18, 12.8
GBMD8501
DEPTH, CM
— = GAGE 19, 11.0
▲ = GAGE 20, 9.5
FREQUENCY, HZ
S(F), CM**2/HZ


GBMD8601
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
GBMD8601
DEPTH, CM
GAGE 18, 12.8

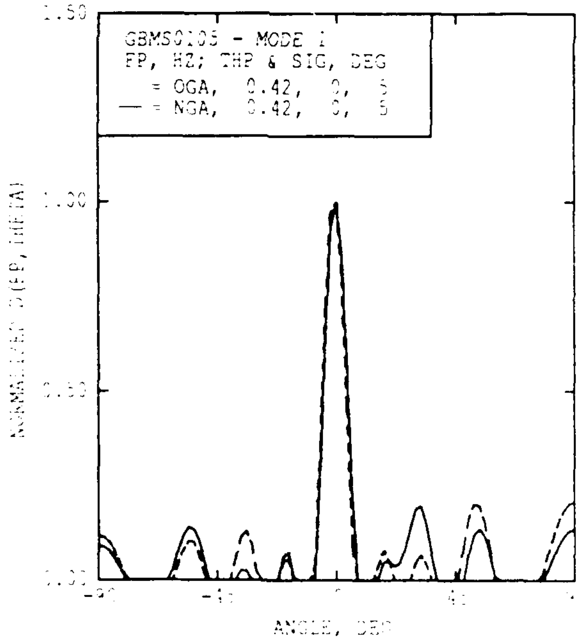


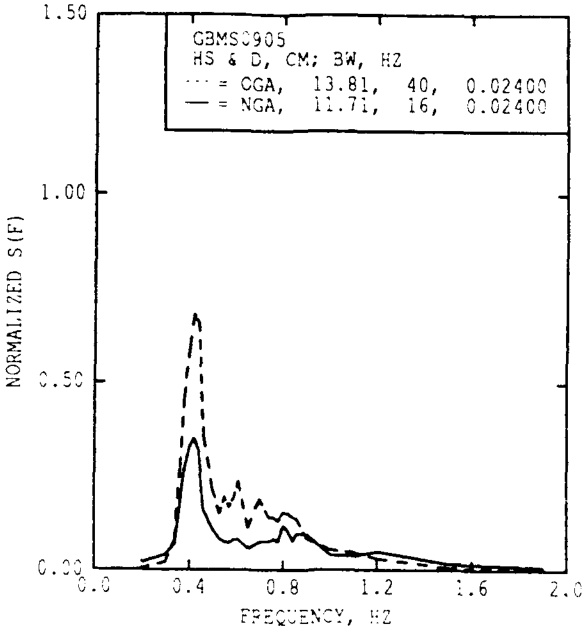
GBMD8/01
DEPTH, CM
GAGE 8,
GAGE 9,
GBMD8/01
DEPTH, CM
GAGE 19, 11.0
GAGE 20, 9.5
GBMD8/01
DEPTH, CM
GAGE 4,
GBMD8/01
DEPTH, CM
FREQUENCY, HZ

APPENDIX I: MEASURED OFFSHORE AND NEARSHORE ARRAY DIRECTIONAL SPECTRA

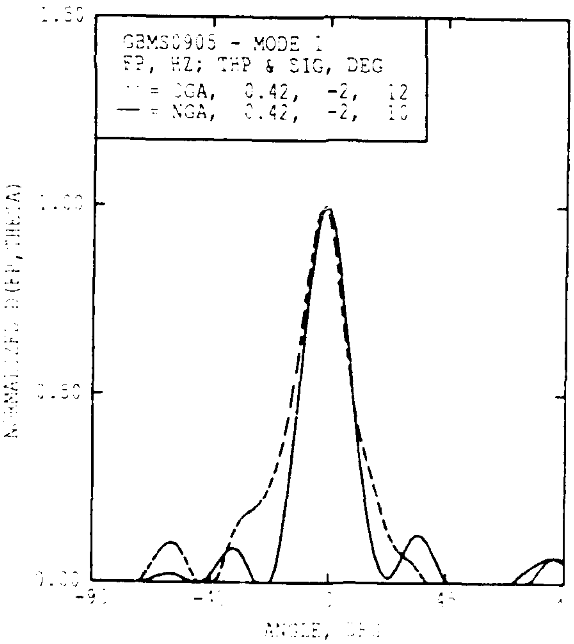


A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = B

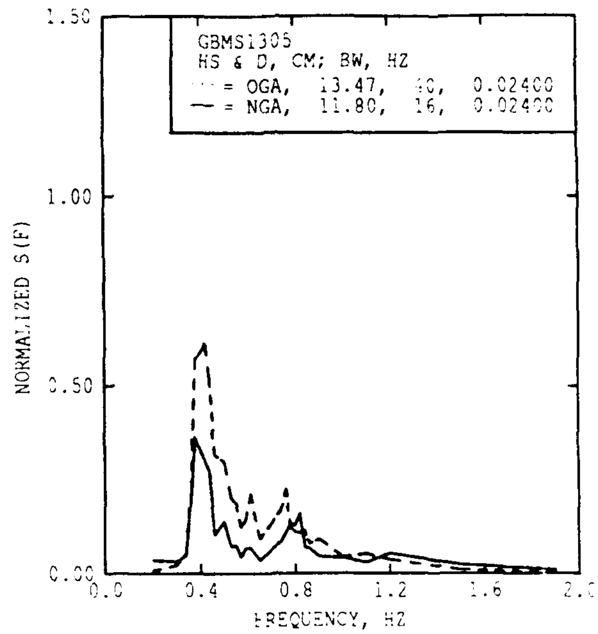




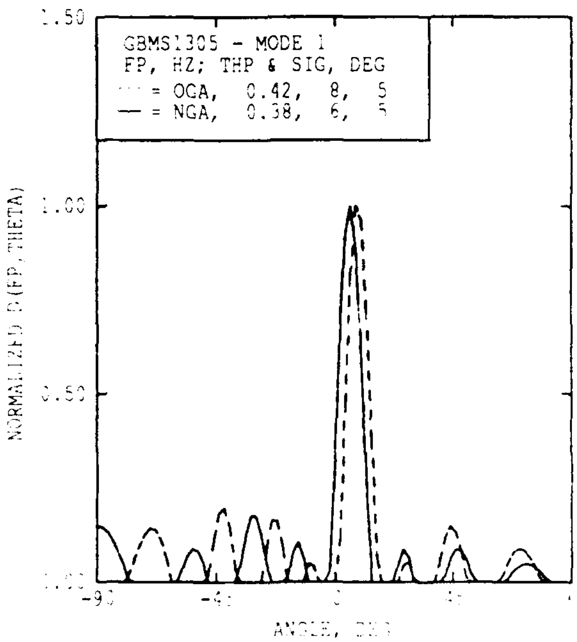
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = A



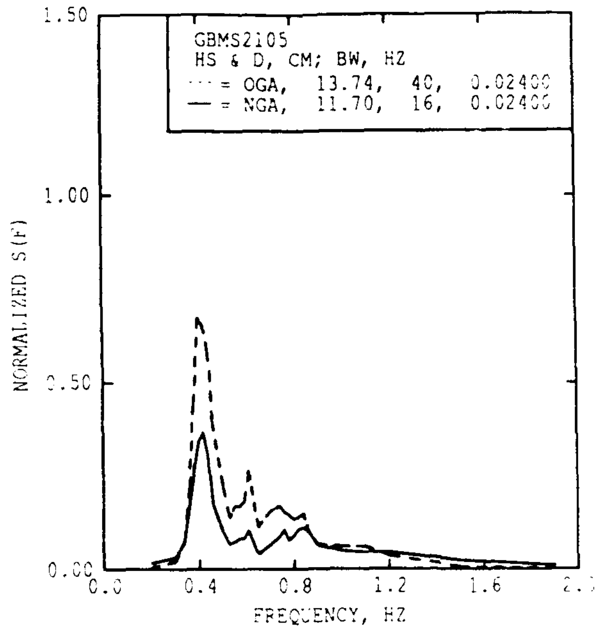
B) OGA VS. NGA SPREADING ... A



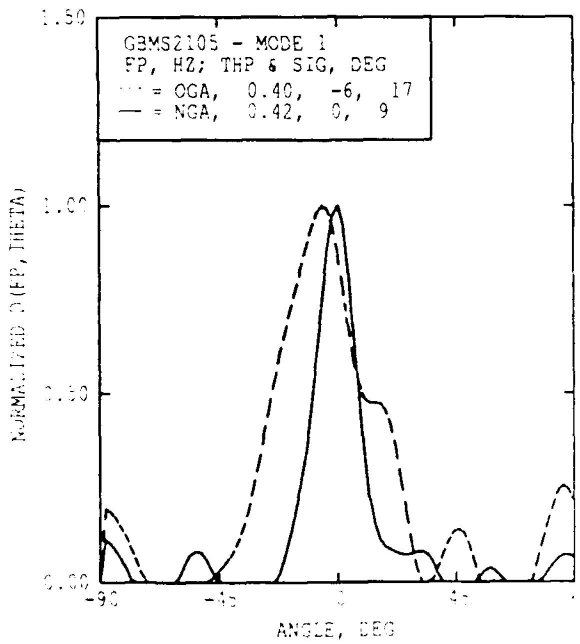
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = B



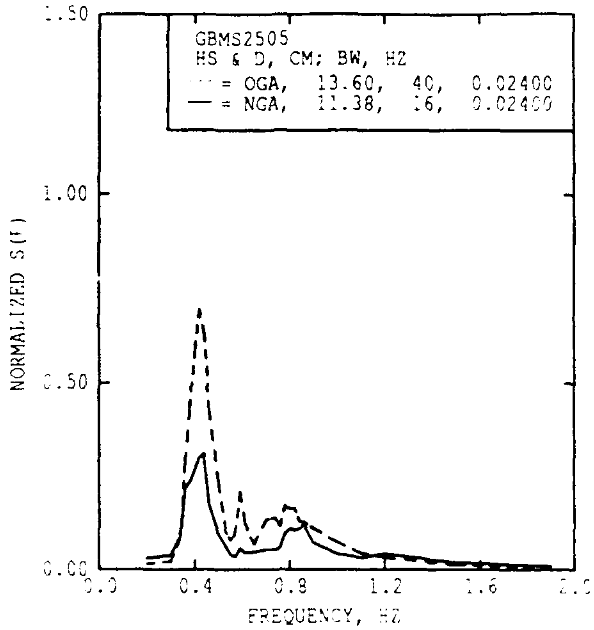
B) OGA VS. NGA SPREADING [illegible],
GAGE CODE = B



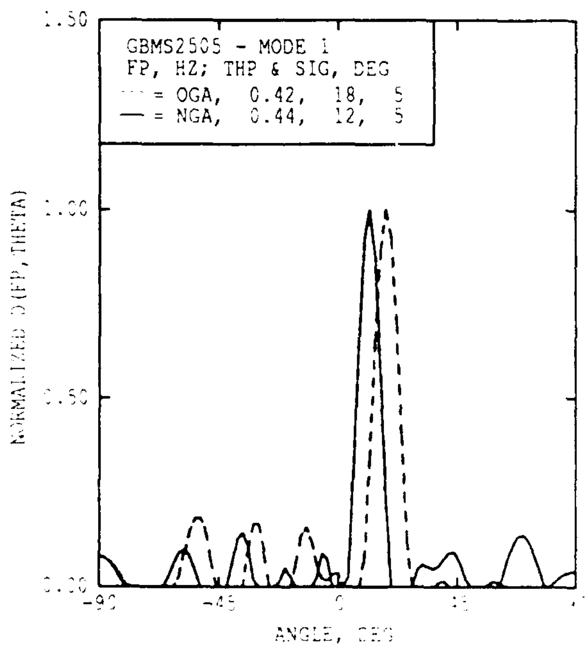
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = A



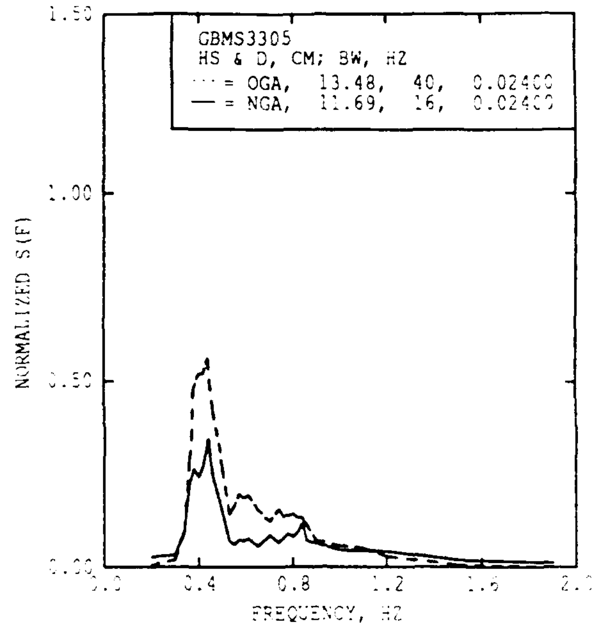
B) OGA VS. NGA SPREADING @ PEAK FRQ.
GAGE CODE = A



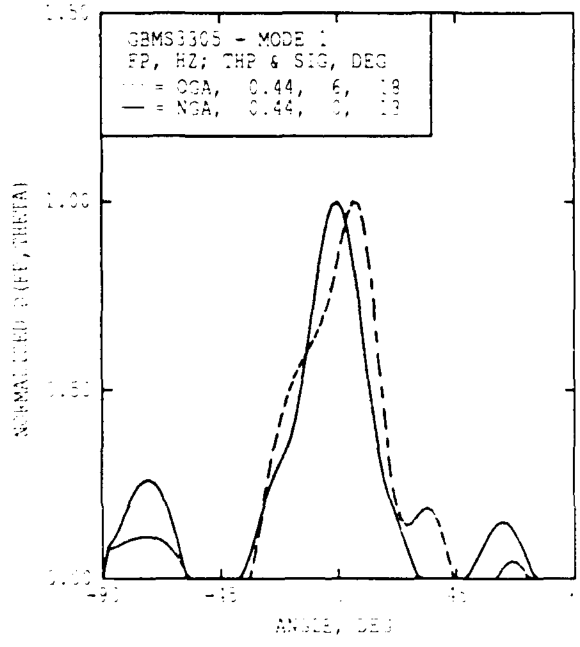
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = B



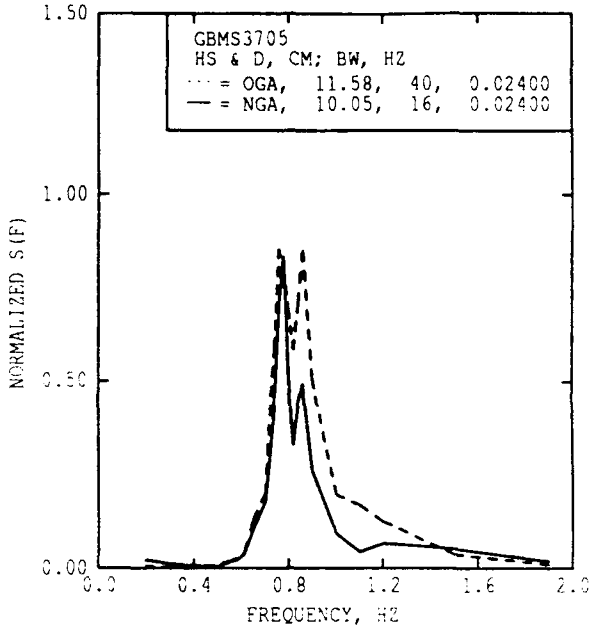
B) OGA VS. NGA SPREADING & PEAK FRE.
GAGE CODE = B



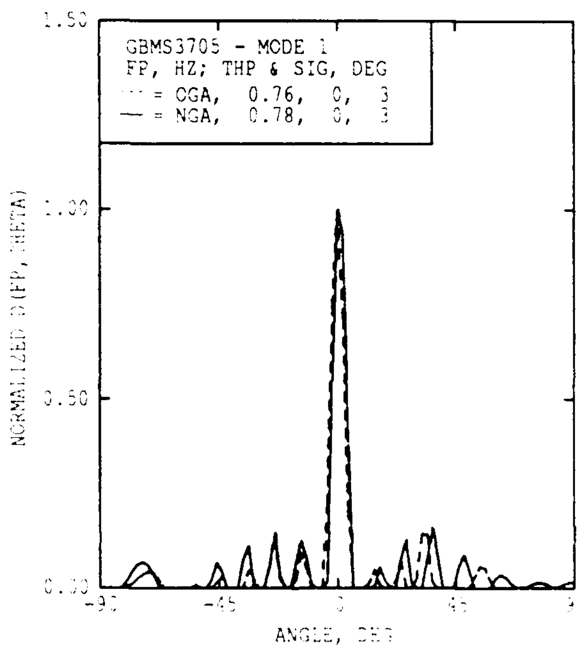
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = C



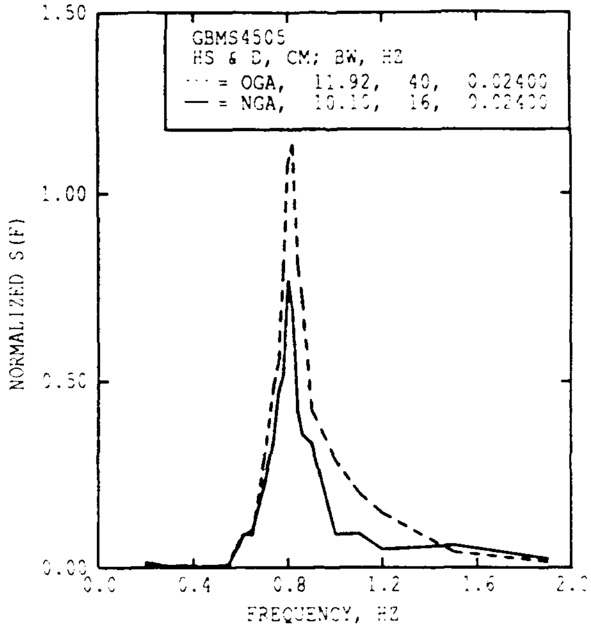
OGA VS. NGA SPREADING & PEAK FP,
GAGE CODE



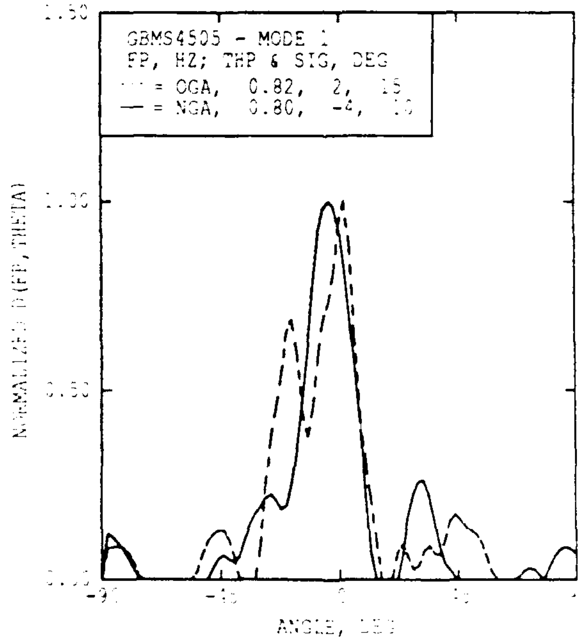
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = B



B) OGA VS. NGA SPREADING @ PEAK FRQ.
GAGE CODE = B



A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = C



B) OGA VS. NGA [illegible]
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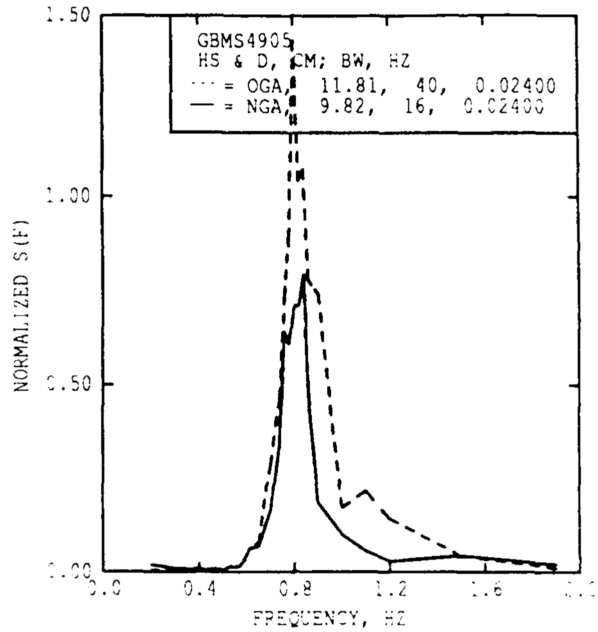
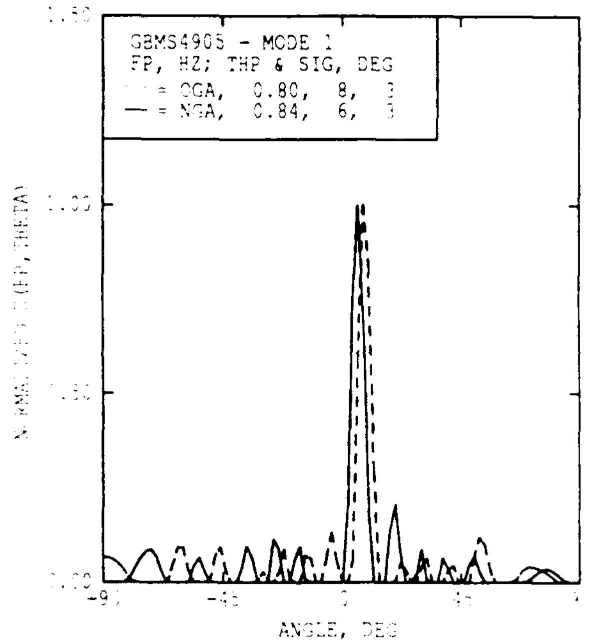
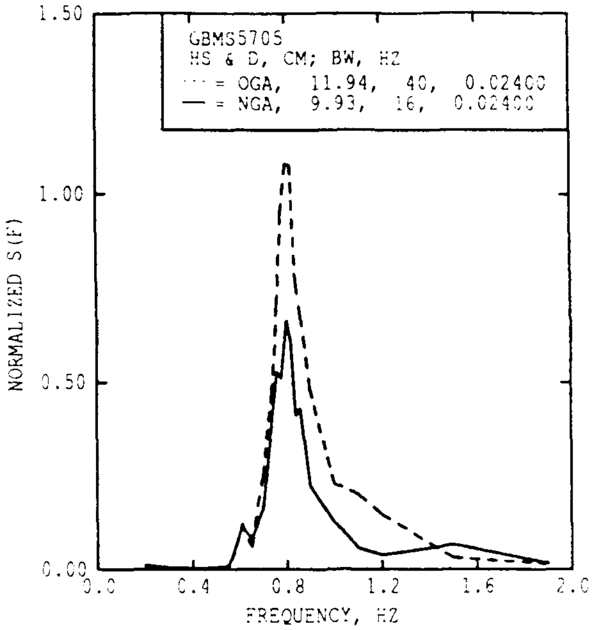


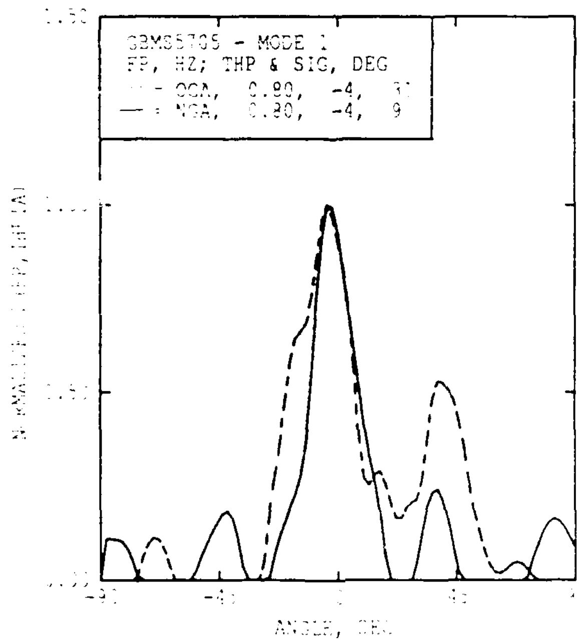
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = B



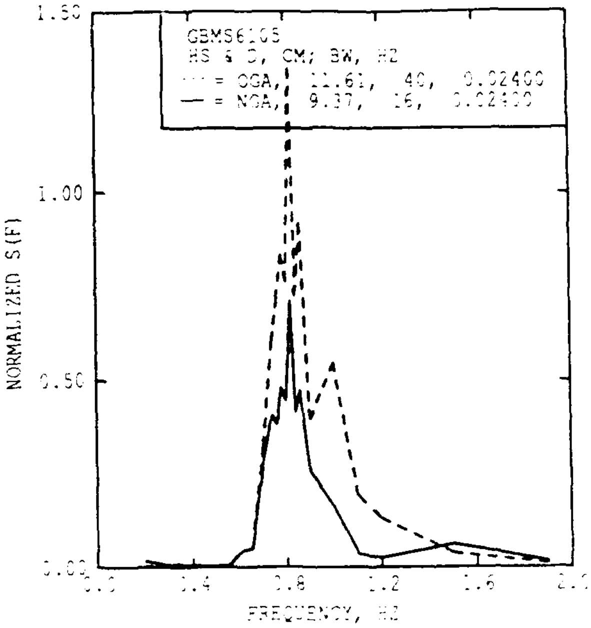
B) OGA VS. NGA SPREADING & PEAK FN.
GAGE CODE = B



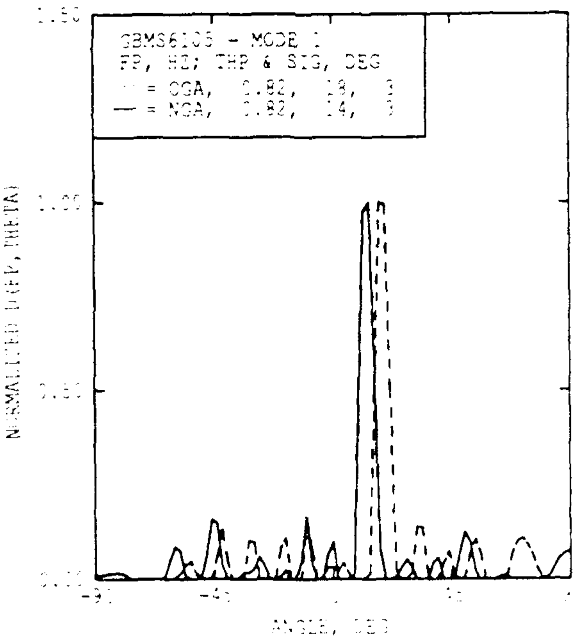
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = C



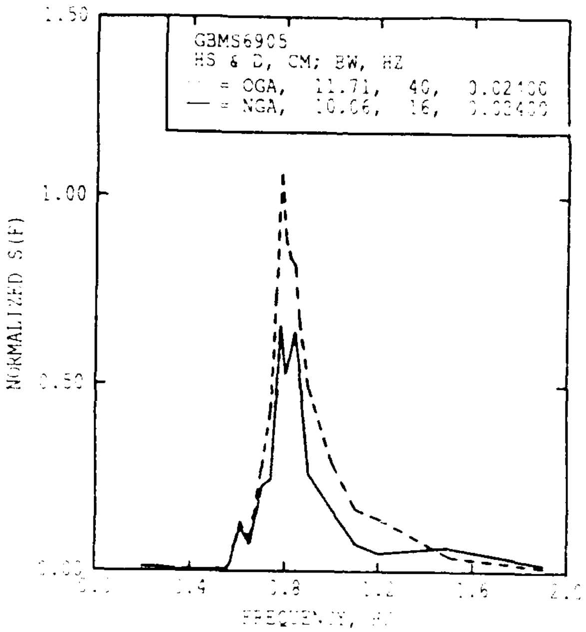
B) OGA VS. NGA SPREADING [illegible]
[illegible]



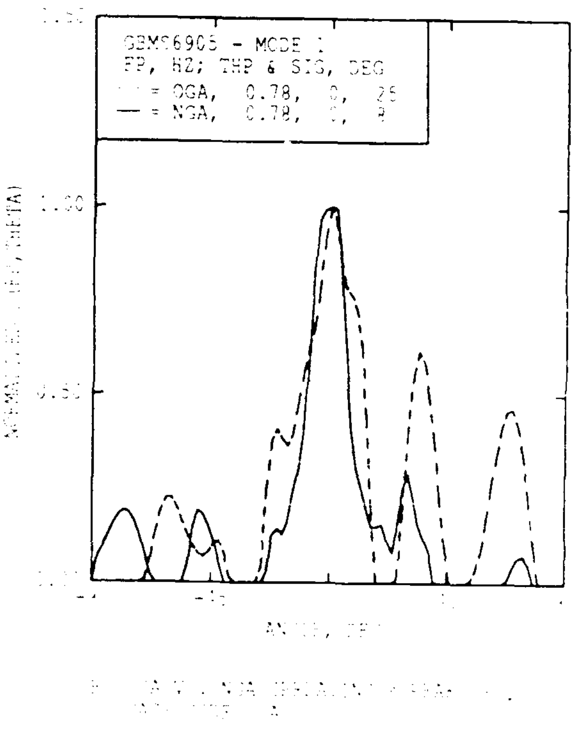
A) OGA VS. NGA FREQUENCY SPECTRA
CASE CODE = B



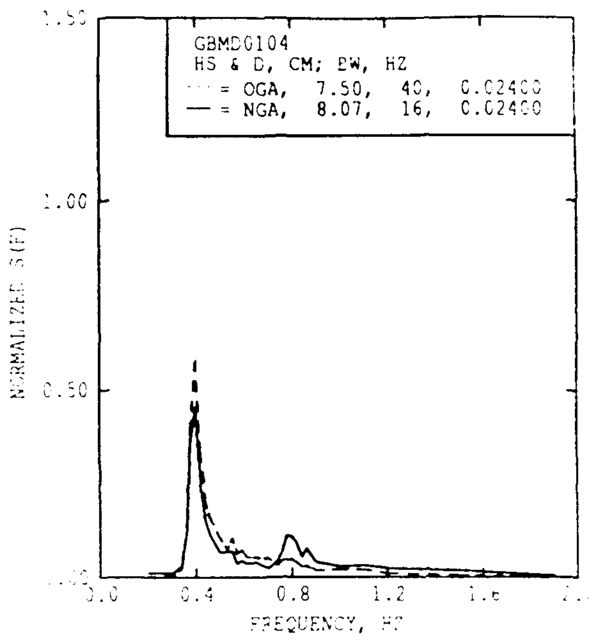
B) OGA VS. NGA [illegible]
[illegible]



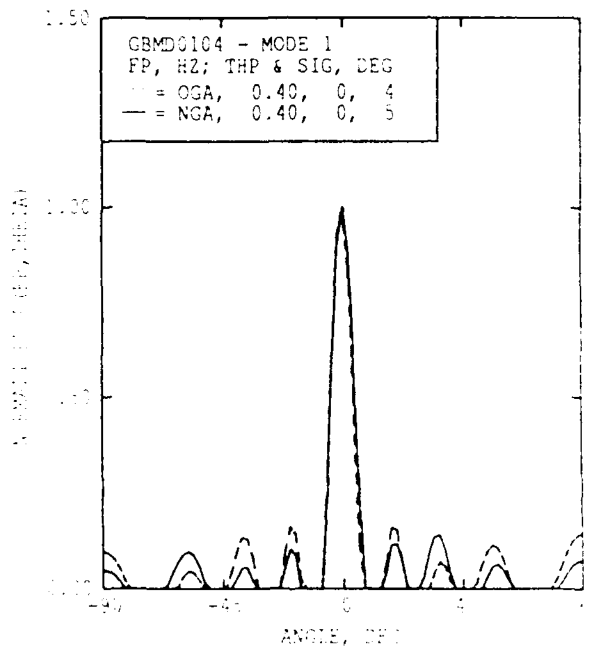
A) OGA VS. NGA FREQUENCY SPECTRA
WAVE TYPE A

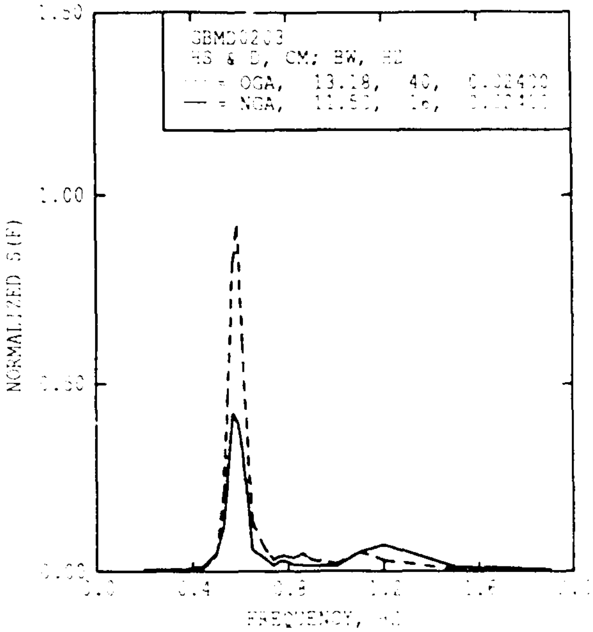


B) [illegible]
[illegible] A

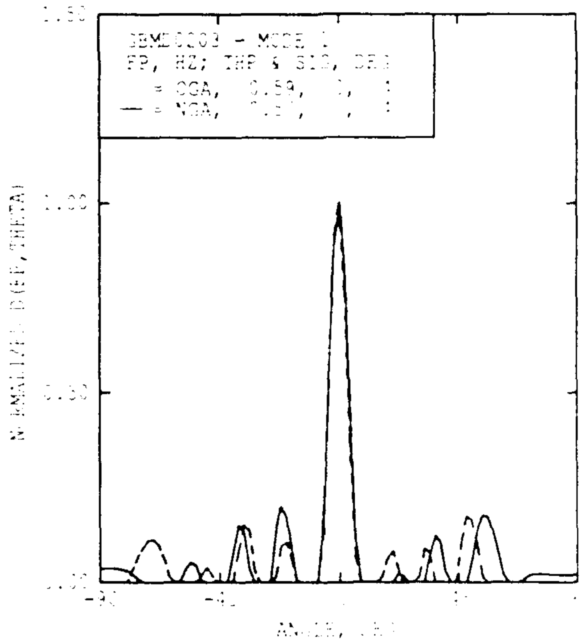


A) OGA VS. NGA FREQUENCY SPECTRA
CASE CODE - B





SBMD0203
HS & D, CM; BW, HZ
= OGA, 13.18, 40,
— = NGA,
NORMALIZED S(F)
1.00
FREQUENCY, HZ



SBMD0203 - MODE
= OGA,
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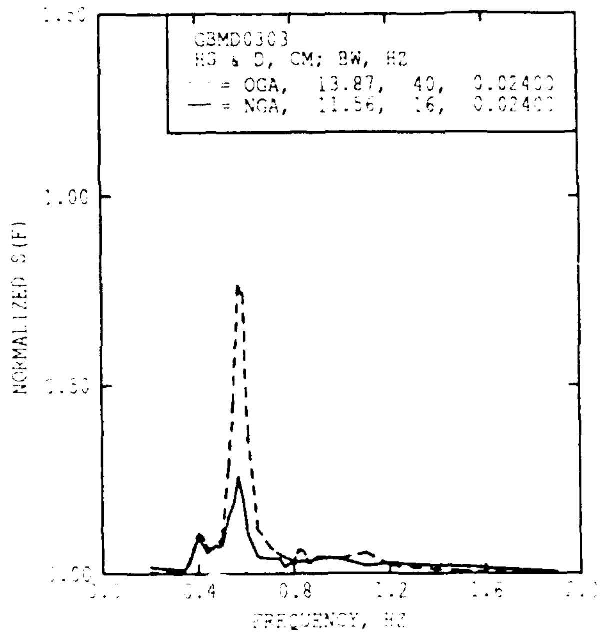
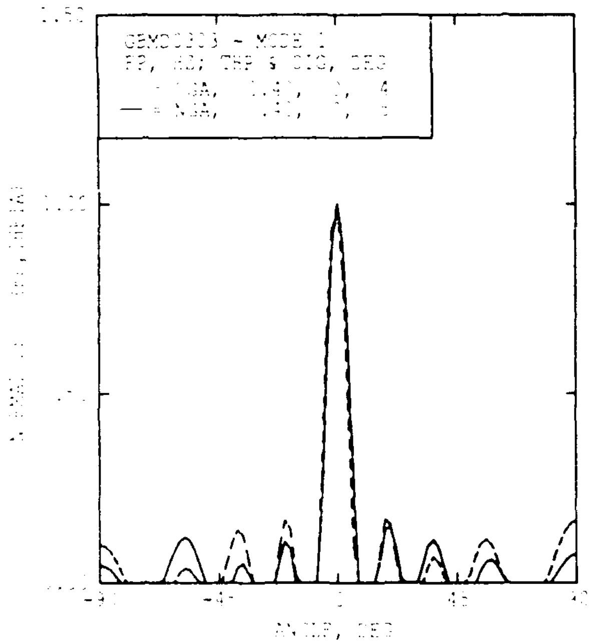
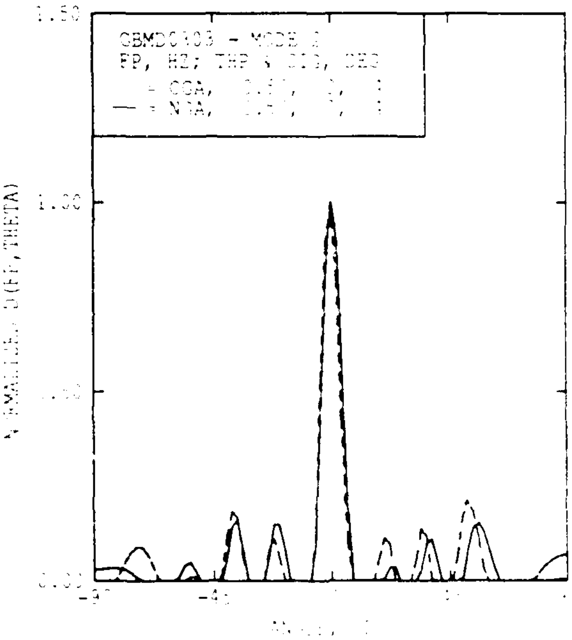
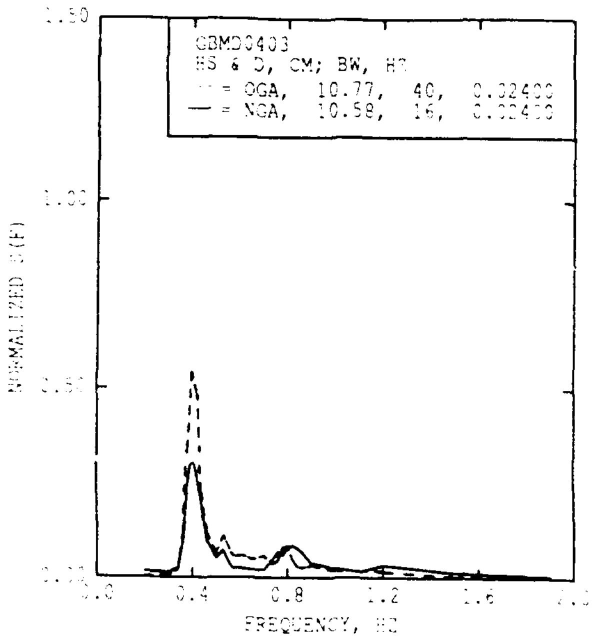


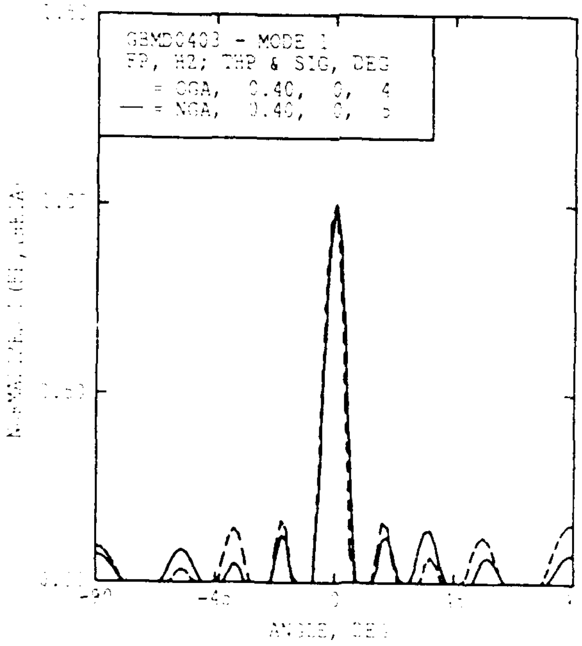
A) OGA VS. NGA FREQUENCY SPECTRA



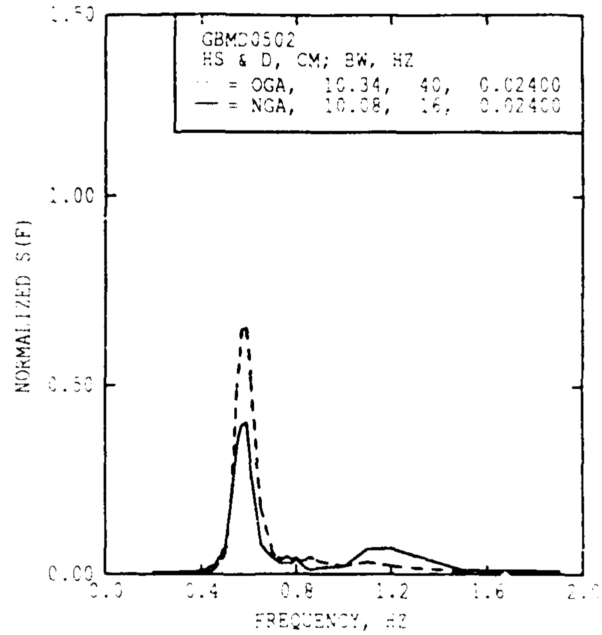




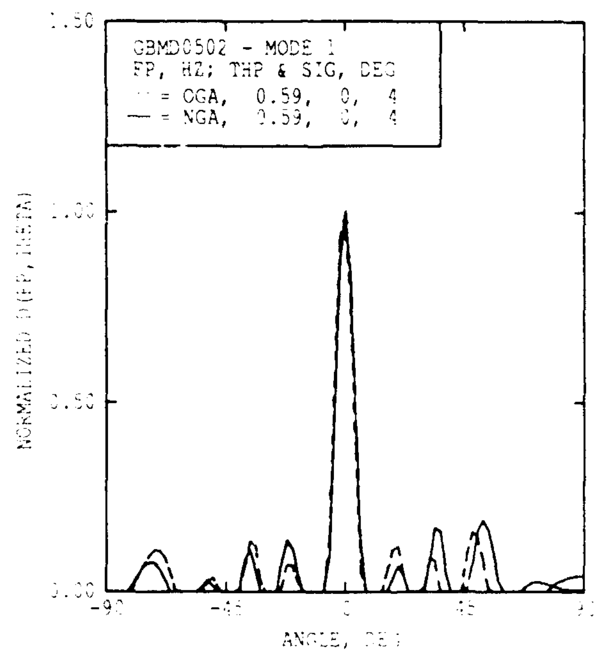
A) OGA VS. NGA FREQUENCY SPECTRA
[illegible] B



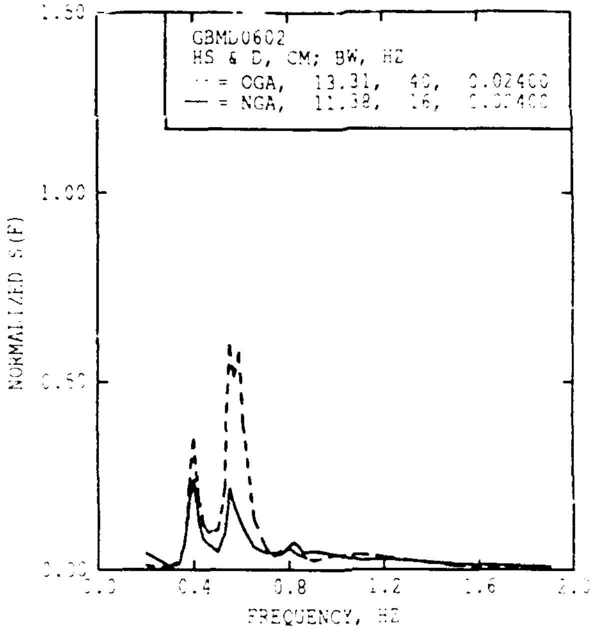
B) OGA VS. NGA SPREADING [illegible]
[illegible] B



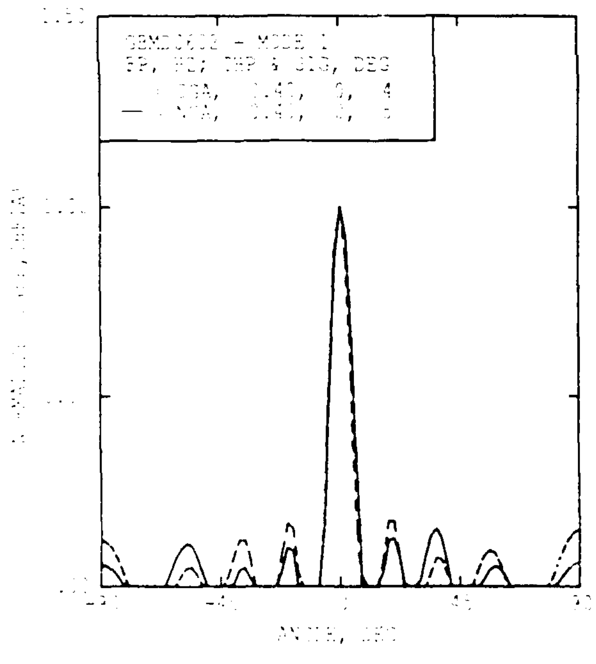
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = B



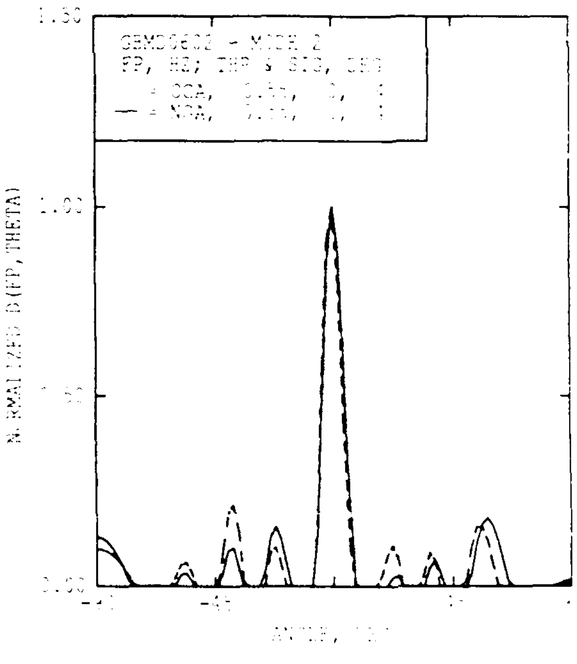
B) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = B



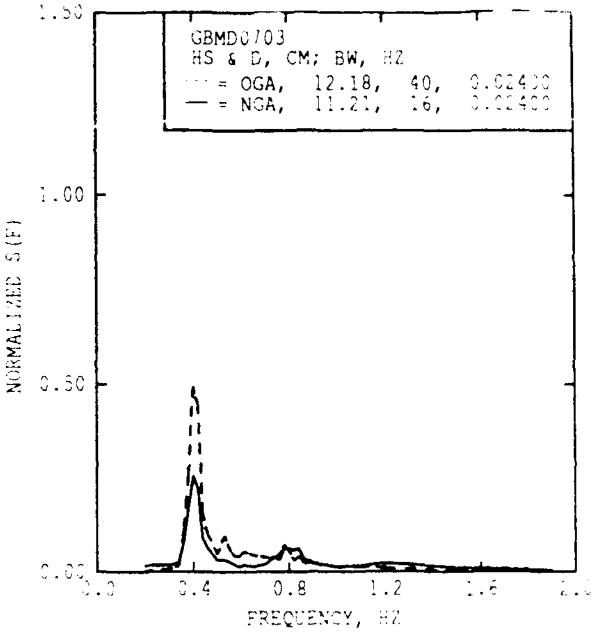
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = B



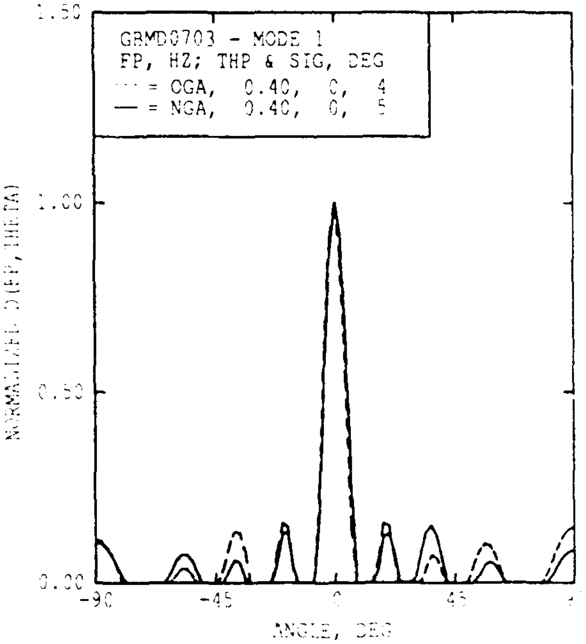
B) [illegible]



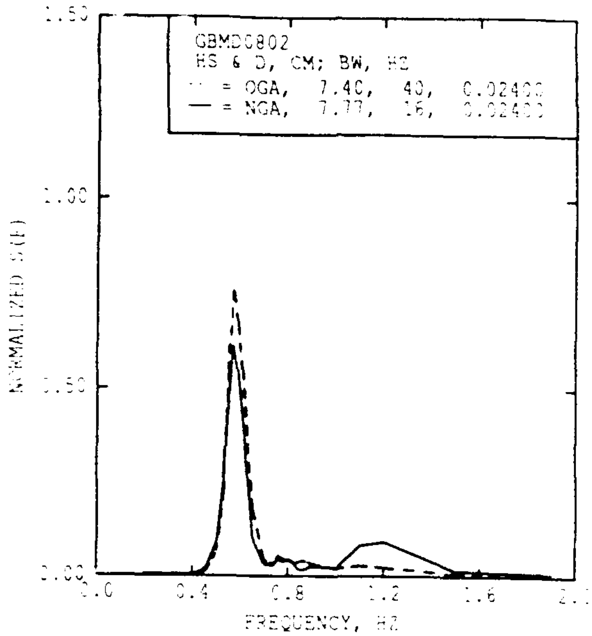
C) [illegible]



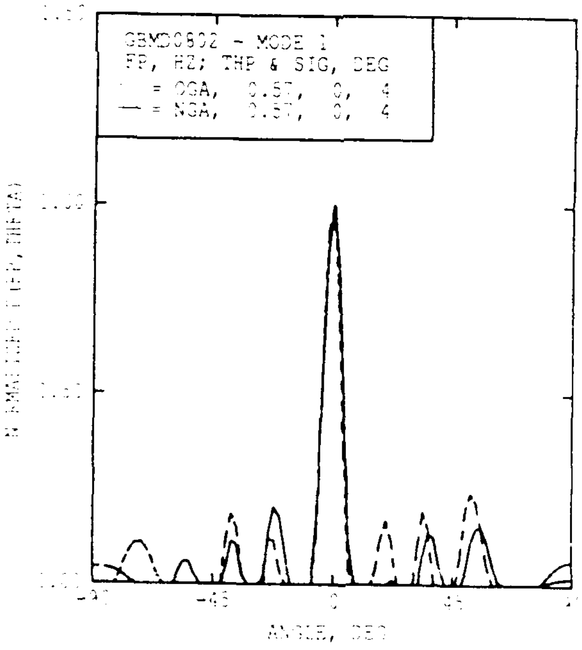
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = B



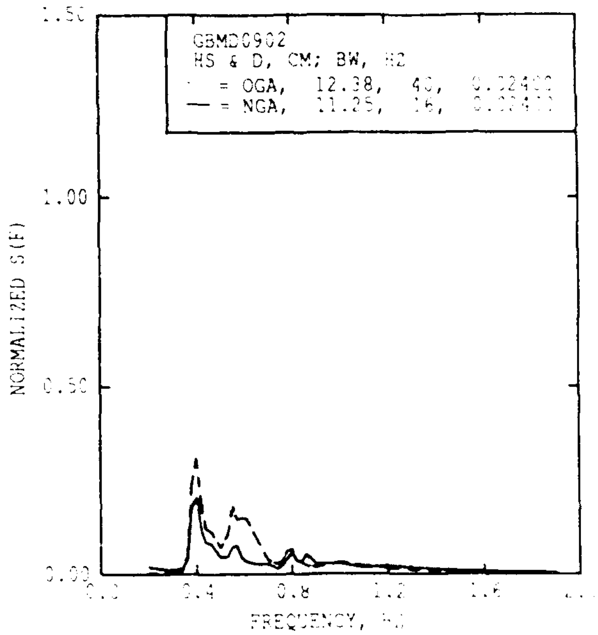
B) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = B



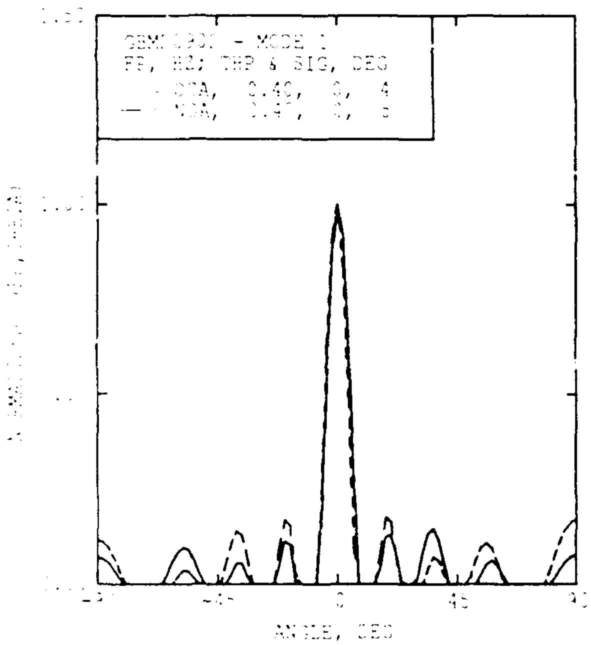
A) OGA VS. NGA FREQUENCY SPECTRA
CASE CODE = B

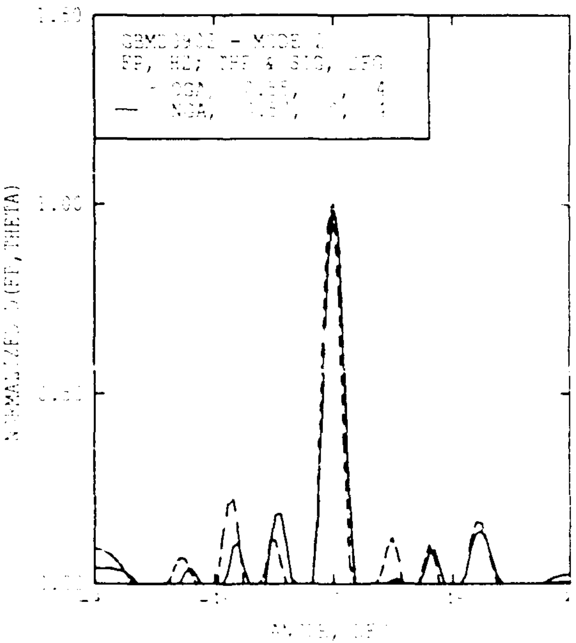


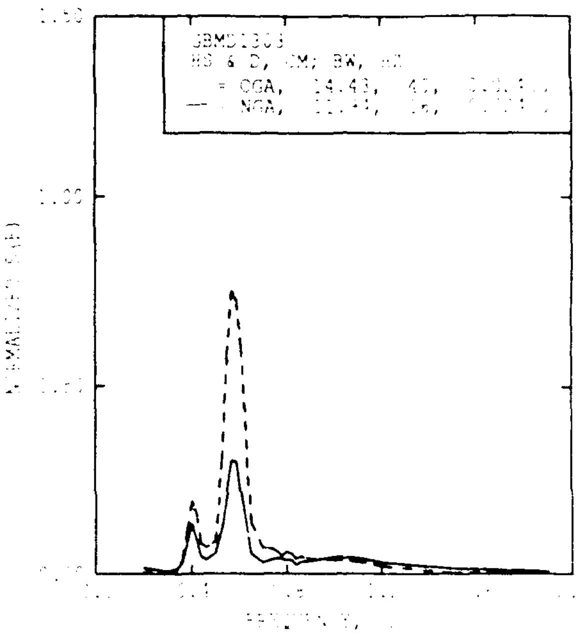
B) OGA VS. NGA SPREADING @ PEAK FREQ
CASE CODE = B

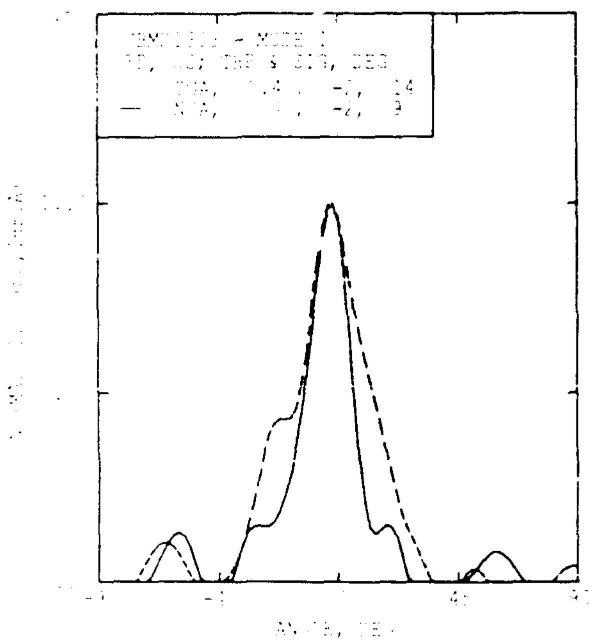


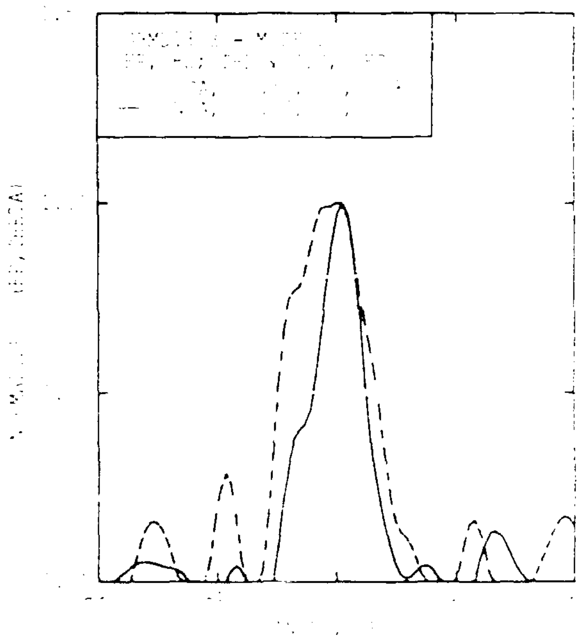
A) OGA VS. NGA FREQUENCY SPECTRA

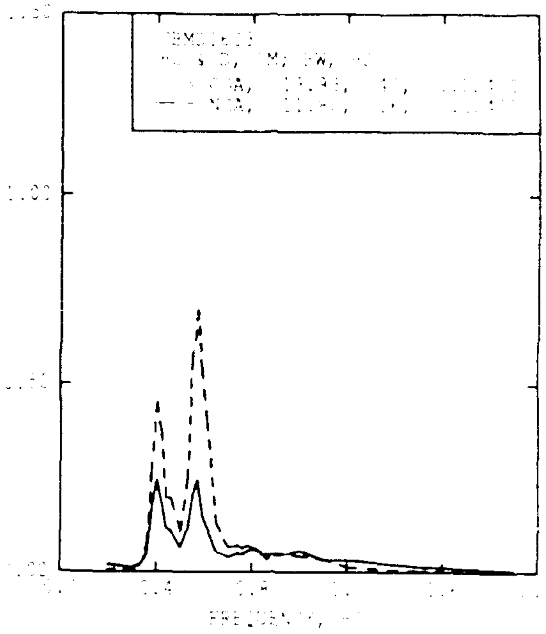





GBMD1303
OGA,
NGA,



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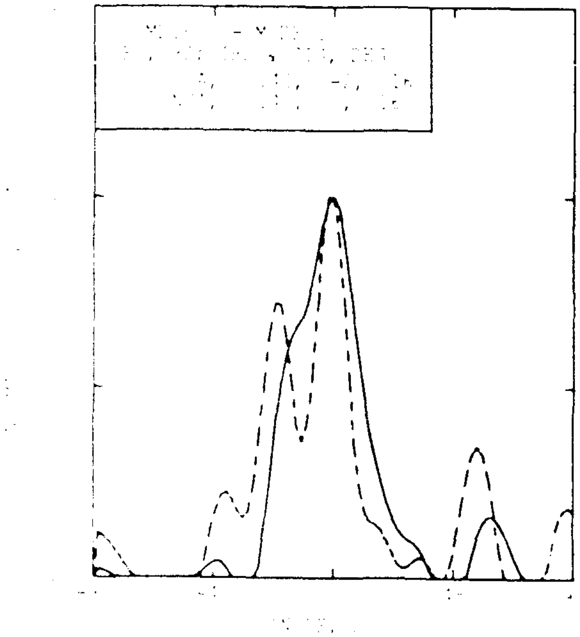
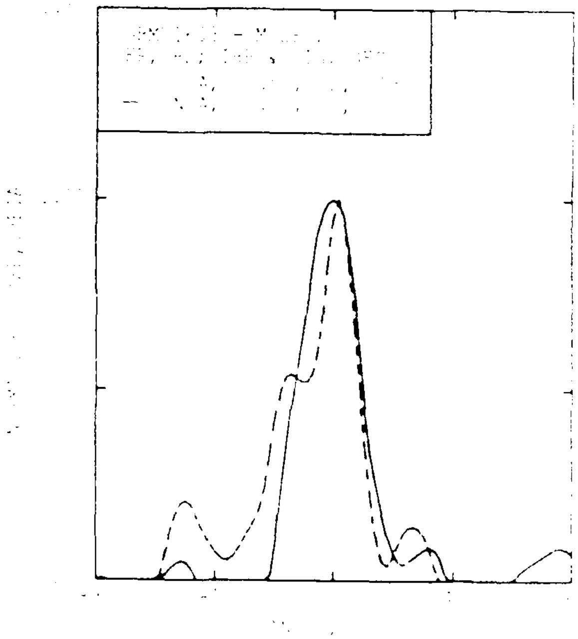
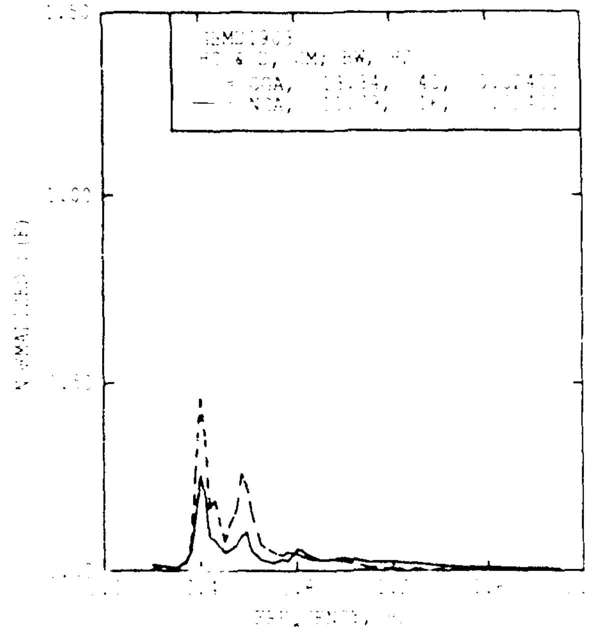
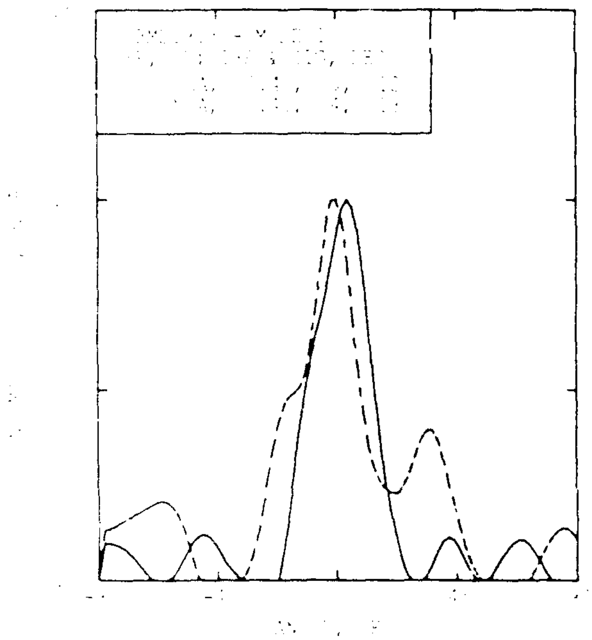
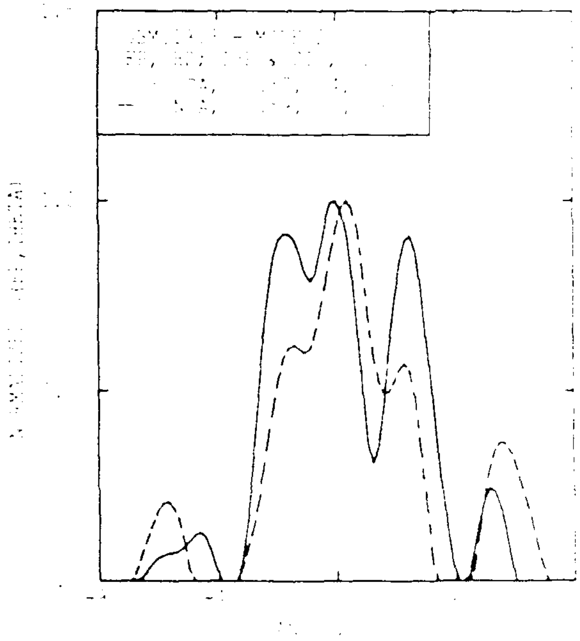
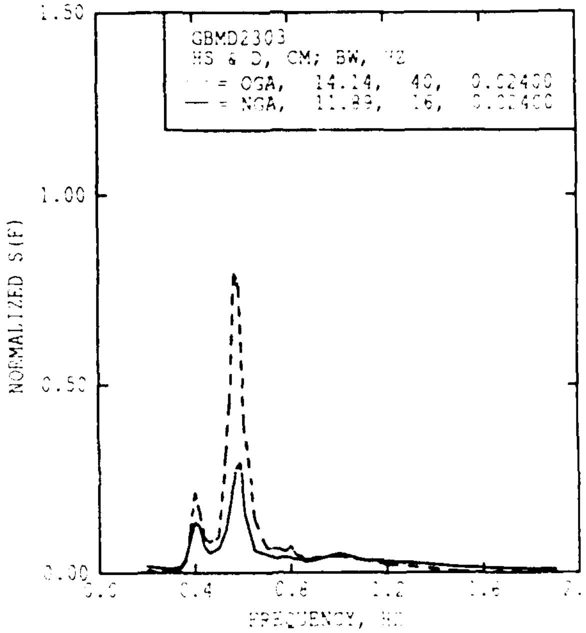




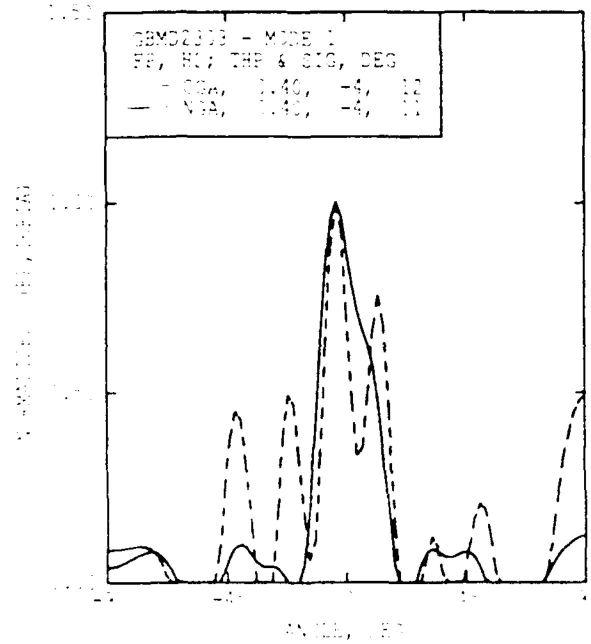


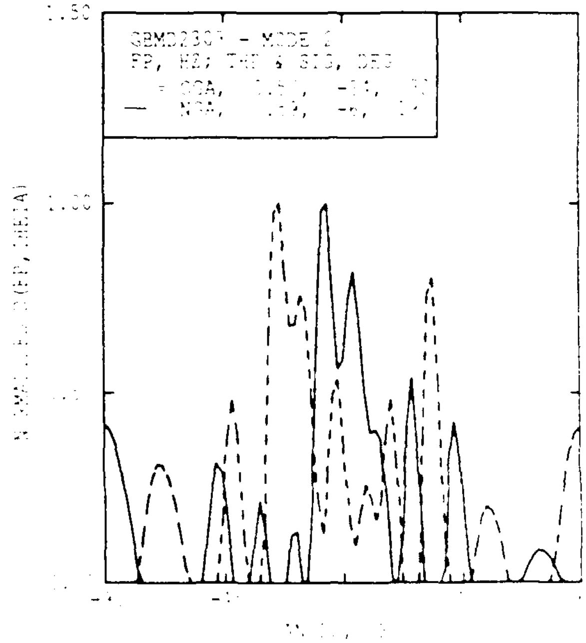


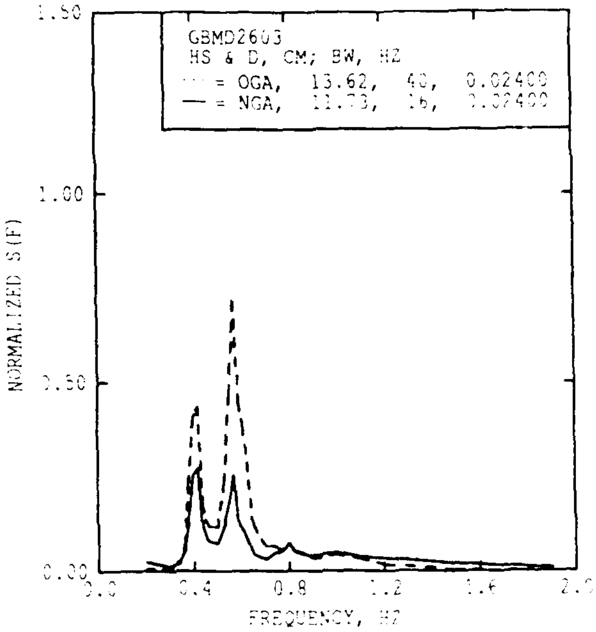




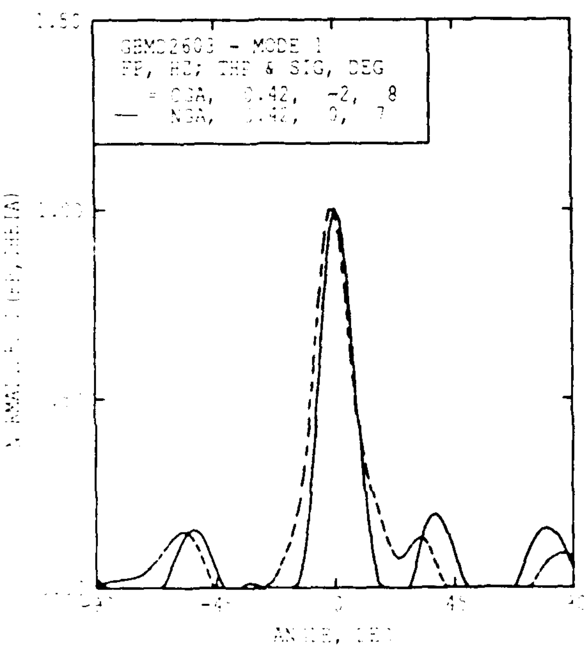
A) OGA VS. NGA FREQUENCY SPECTRA
CASE CODE - H



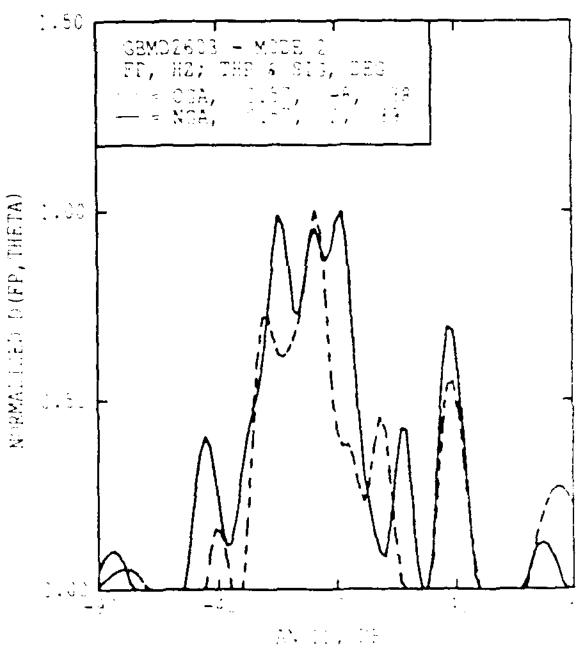




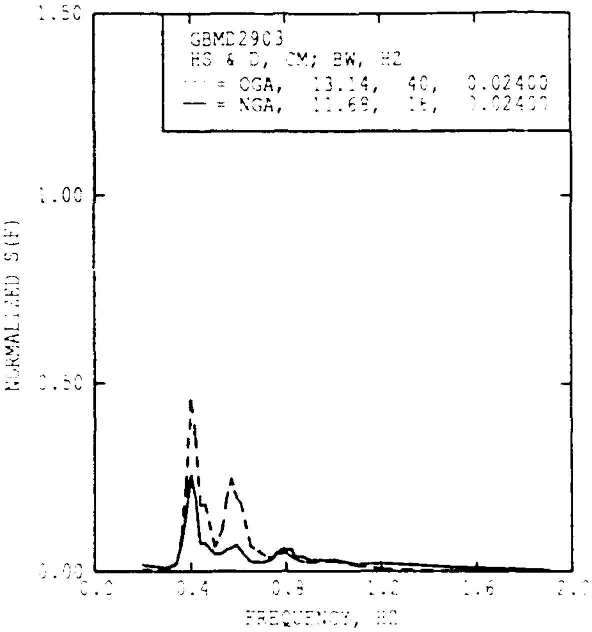
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = D



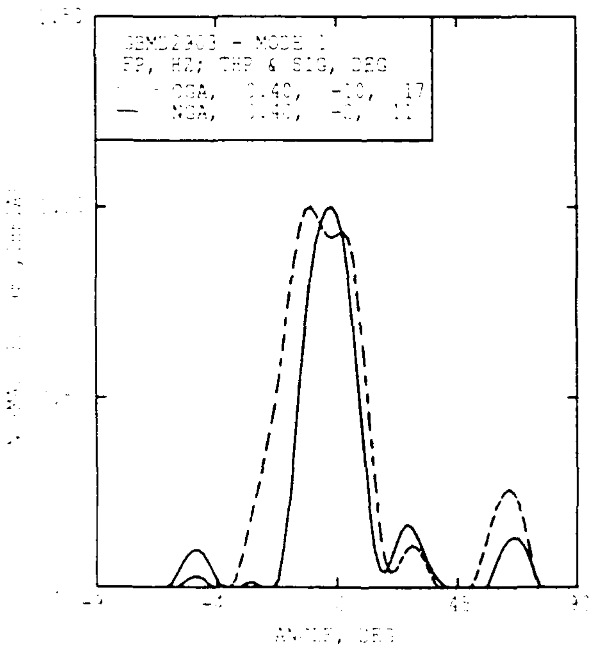
[illegible]

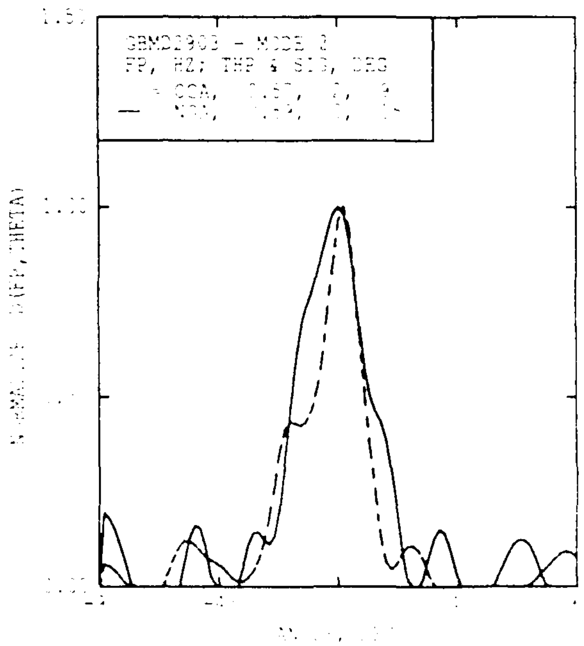


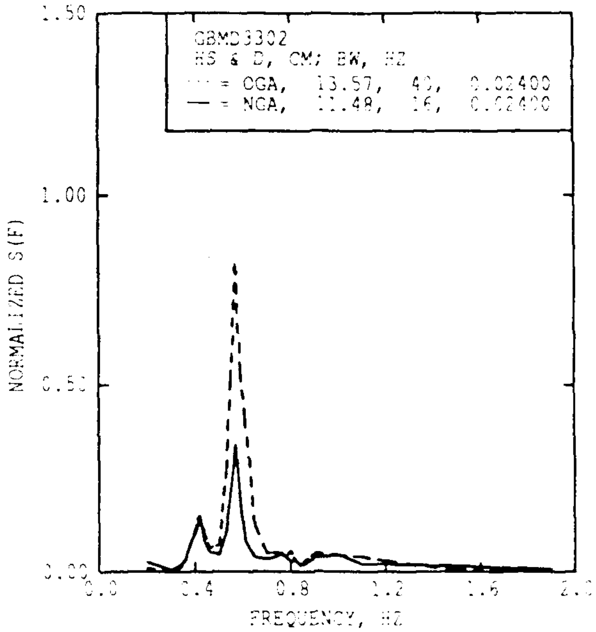
[illegible]



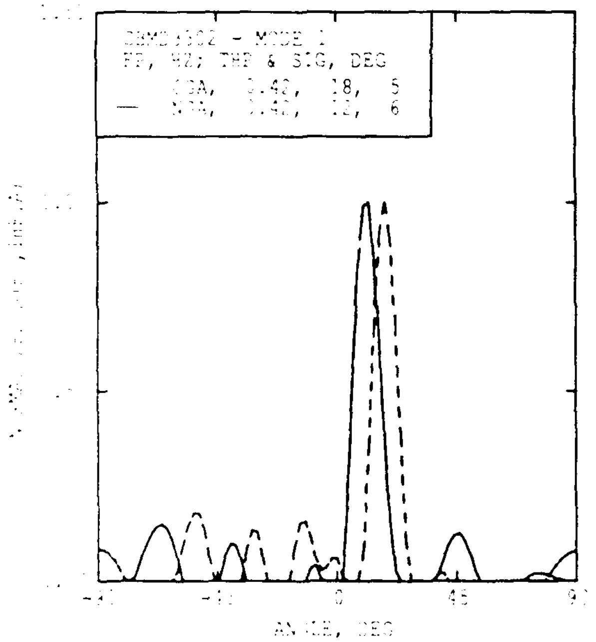
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE A

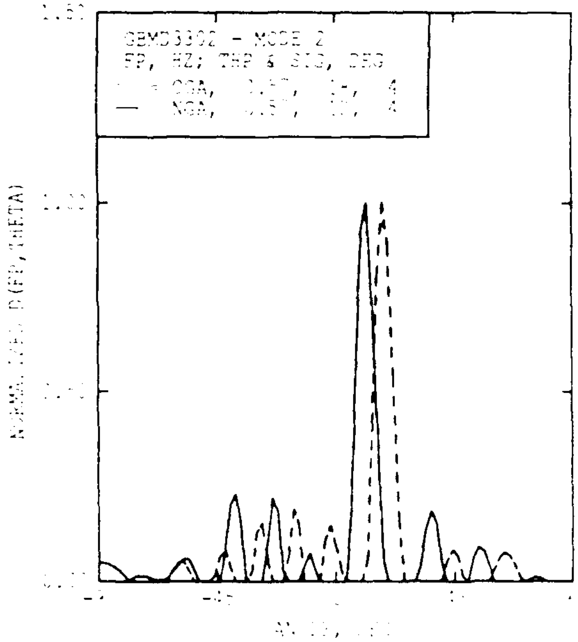


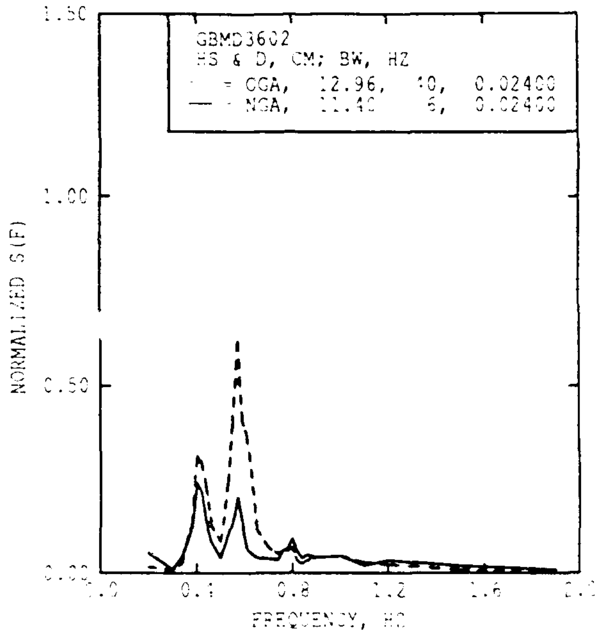




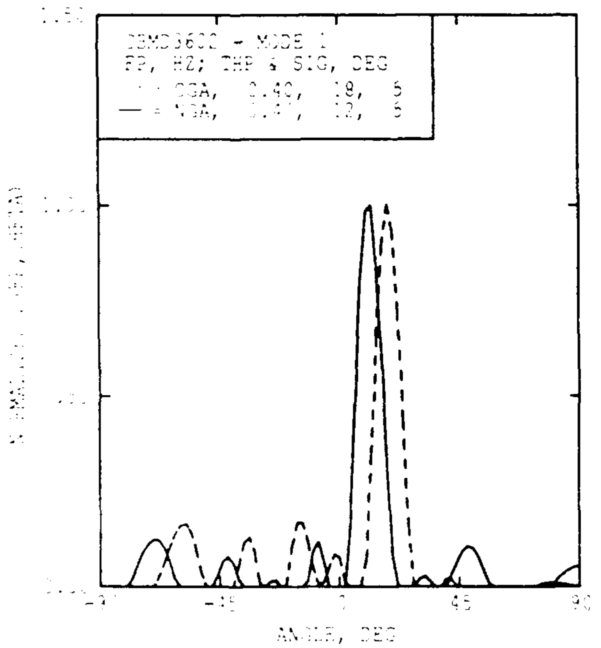
A) OGA VS. NGA FREQUENCY SPECTRA
CASE CODE = B

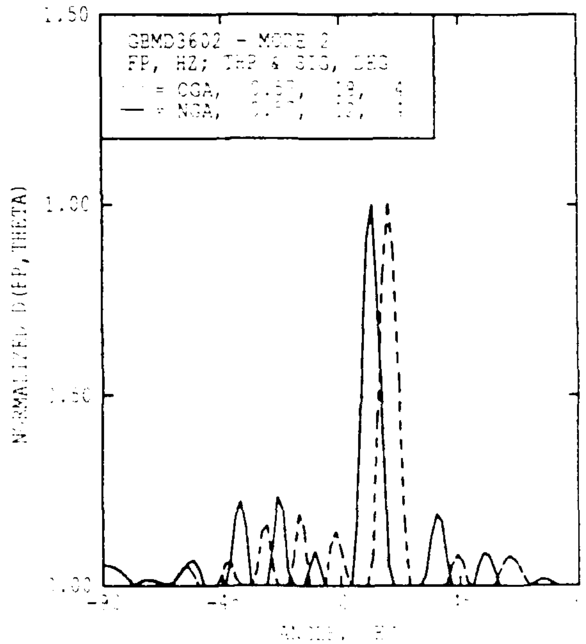


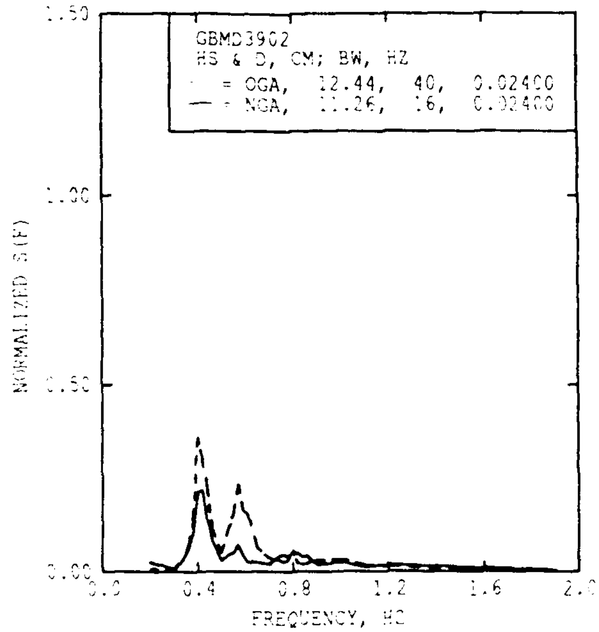




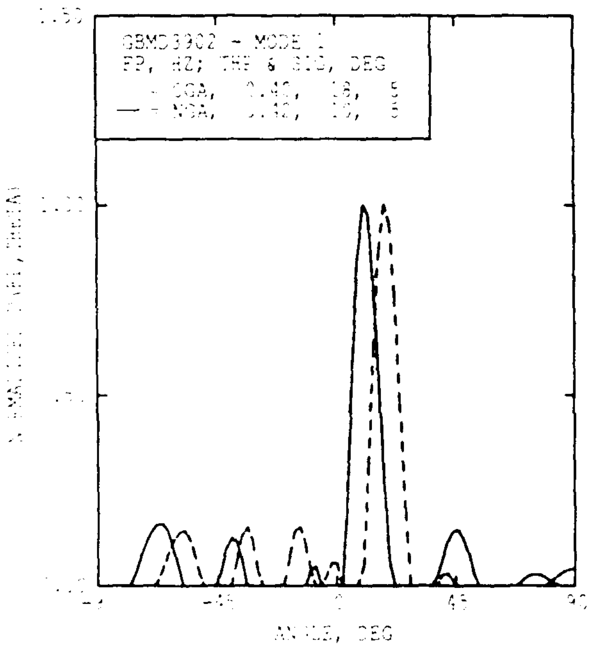
A) CGA VS. NGA FREQUENCY SPECTRA

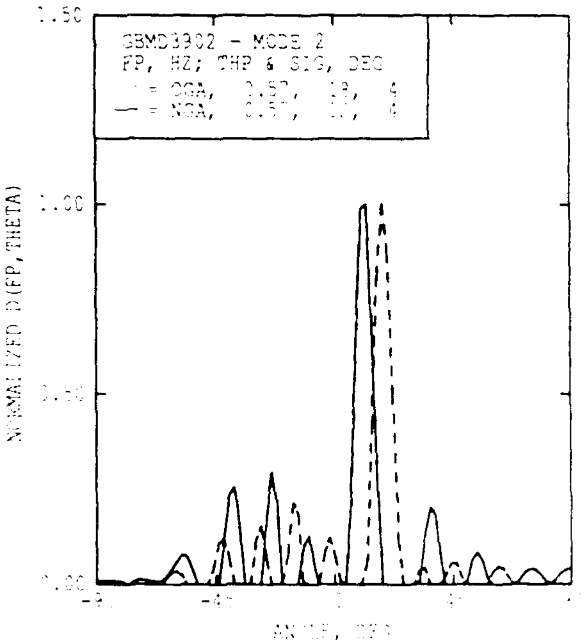


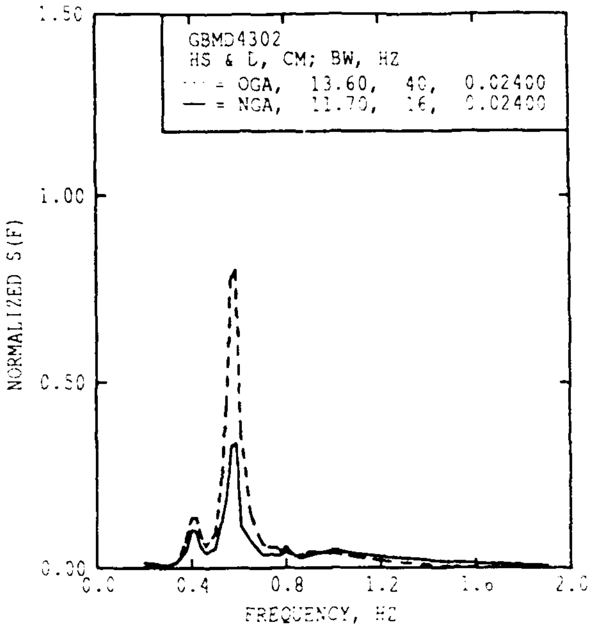




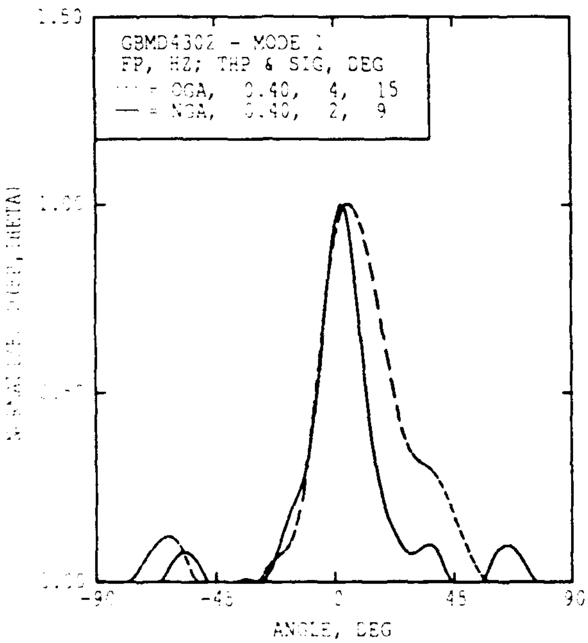
A: OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = B



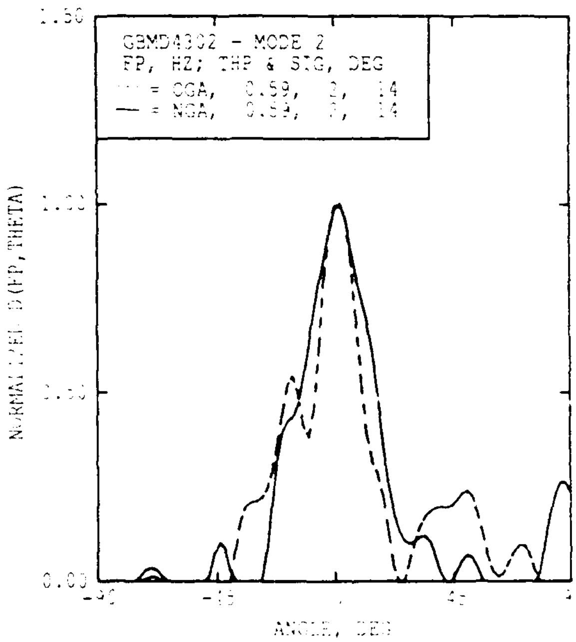




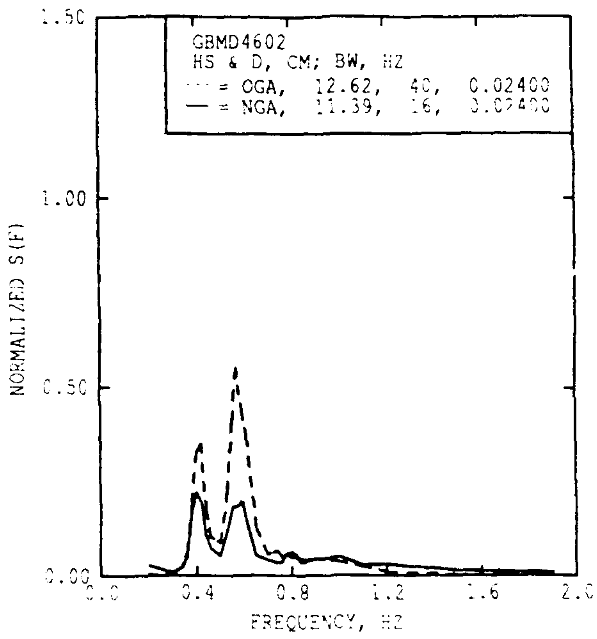
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = A



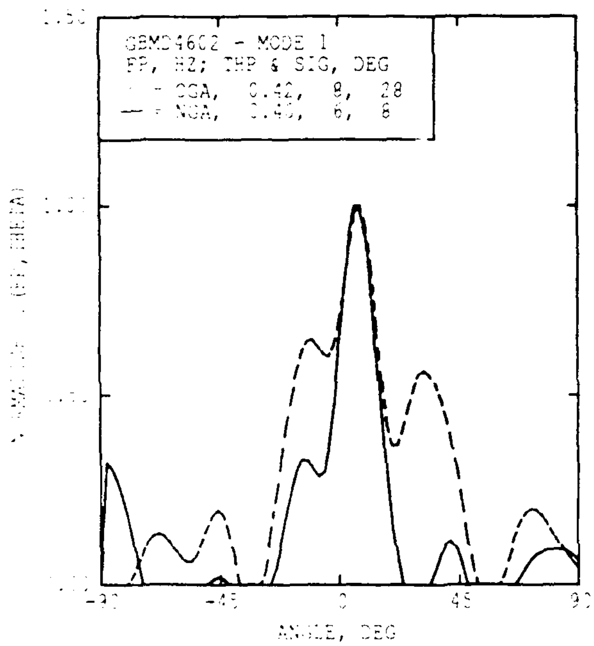
B) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = A



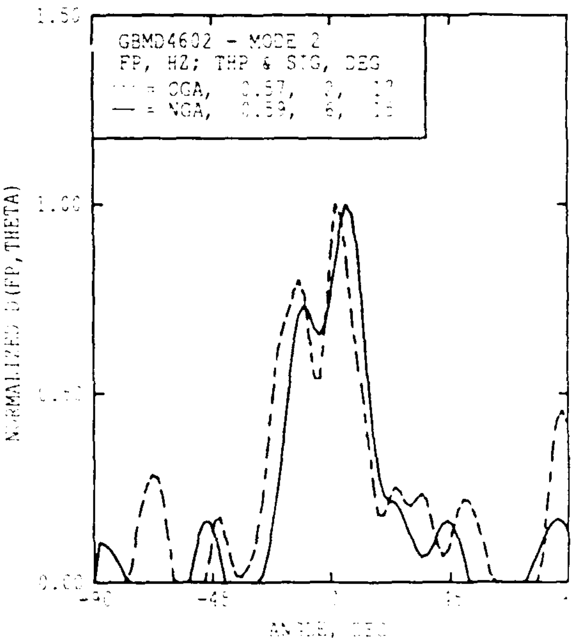
C) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = A



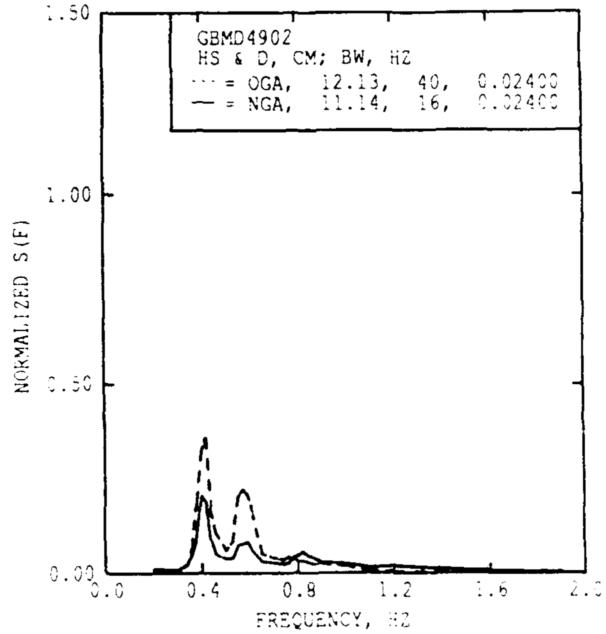
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = A



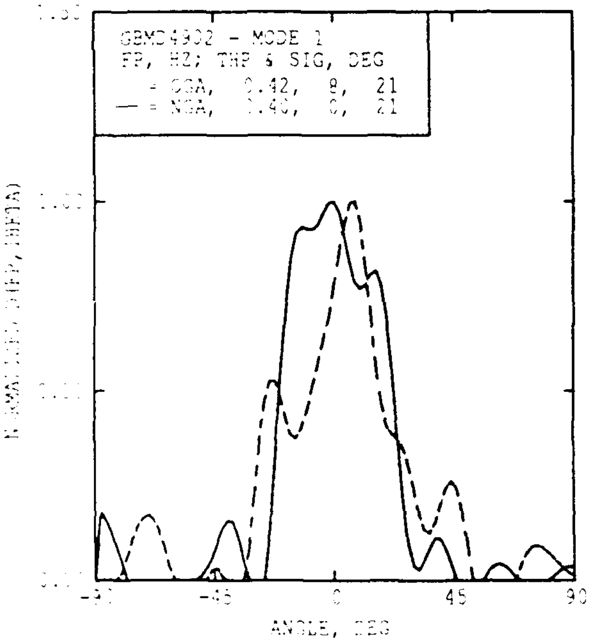
B) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = A



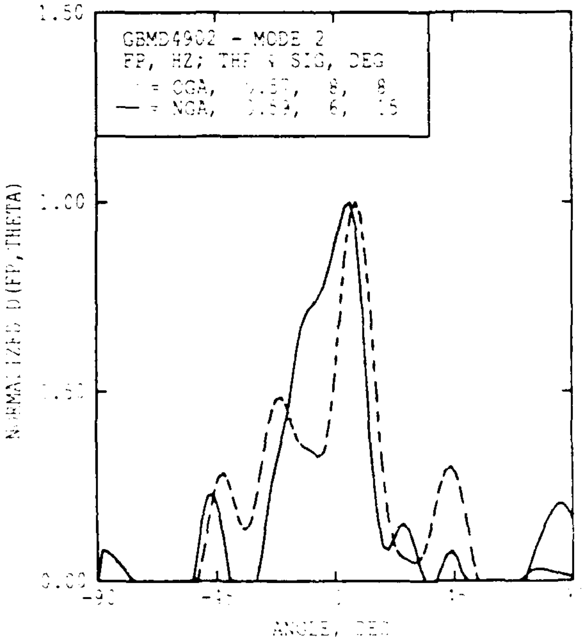
C) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = A



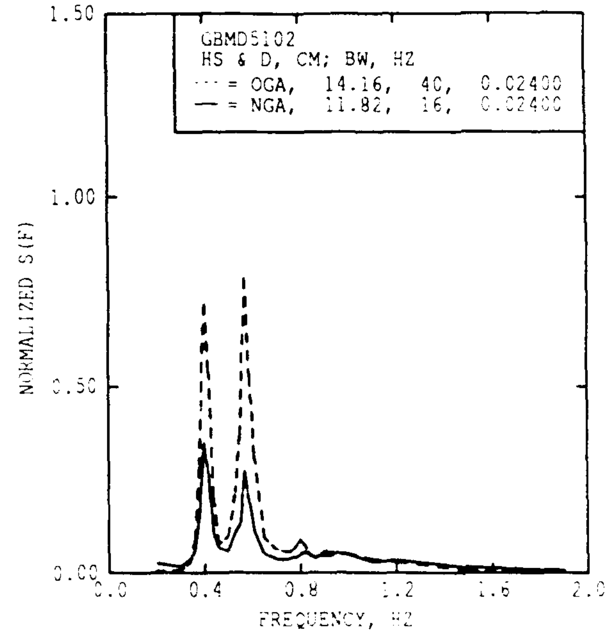
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = A



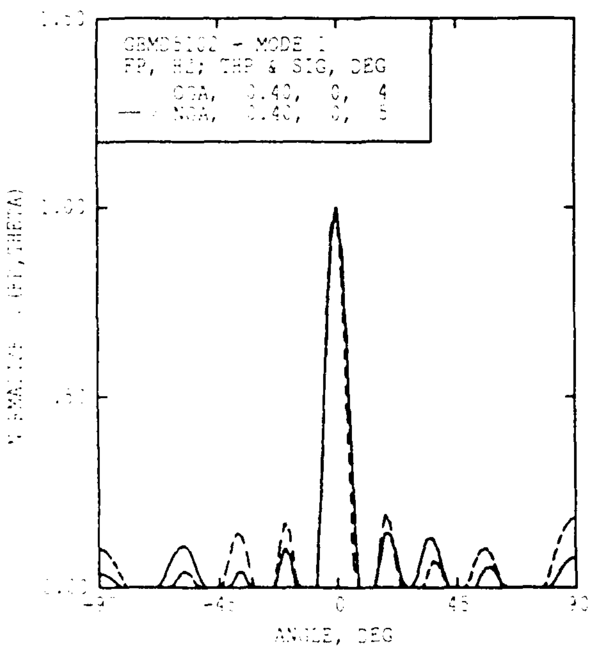
B) [illegible] SPREADING & PEAK FREQ
[illegible] A



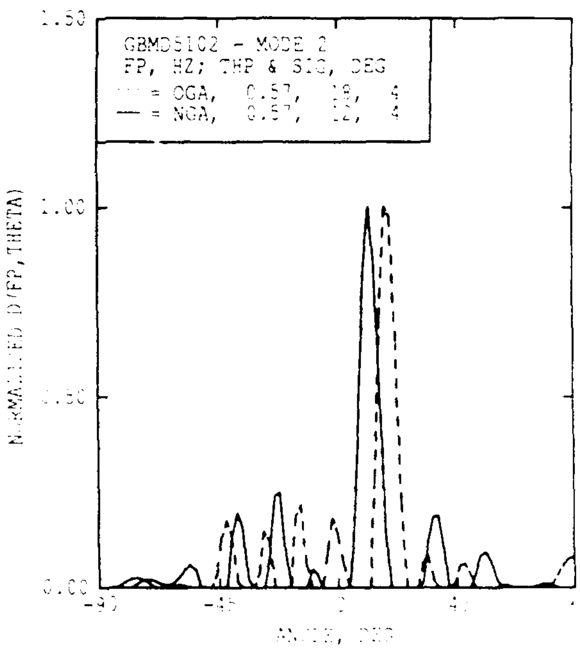
C) [illegible] SPREADING & PEAK [illegible]
[illegible] A



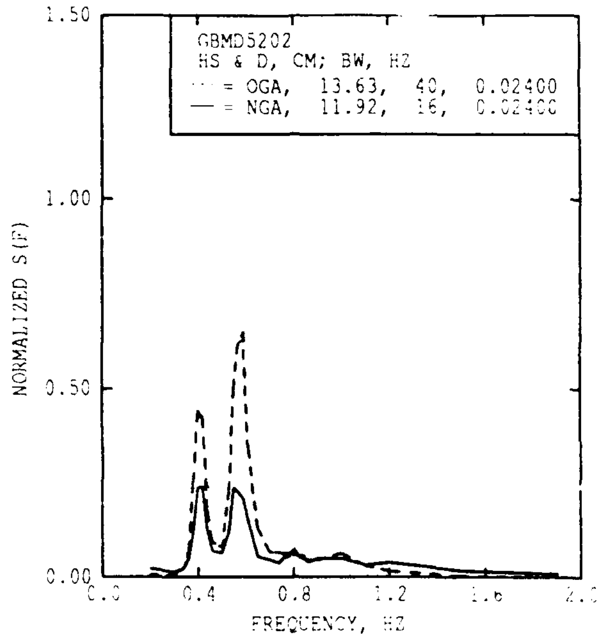
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = B



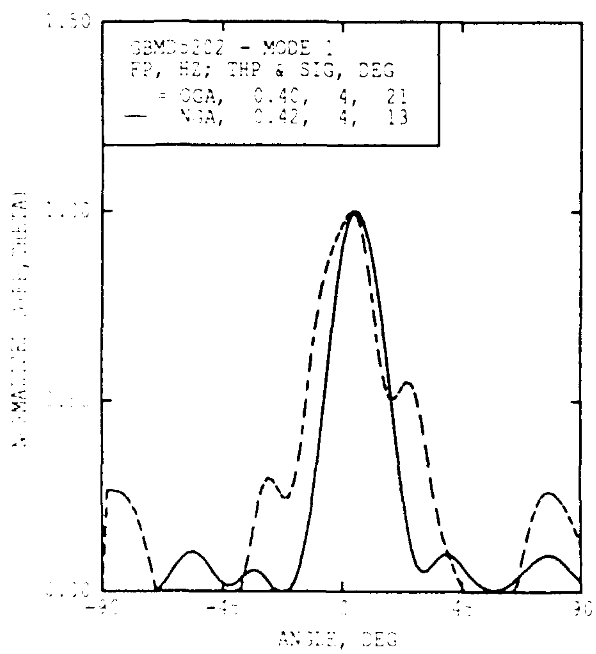
B) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = B



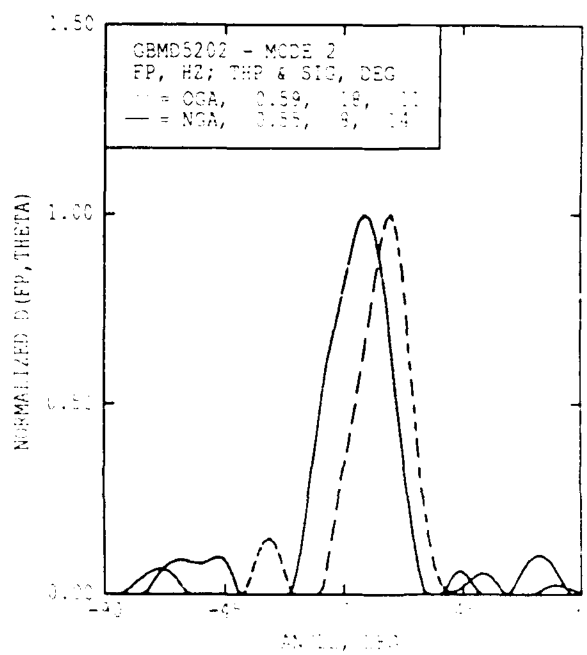
C) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = B



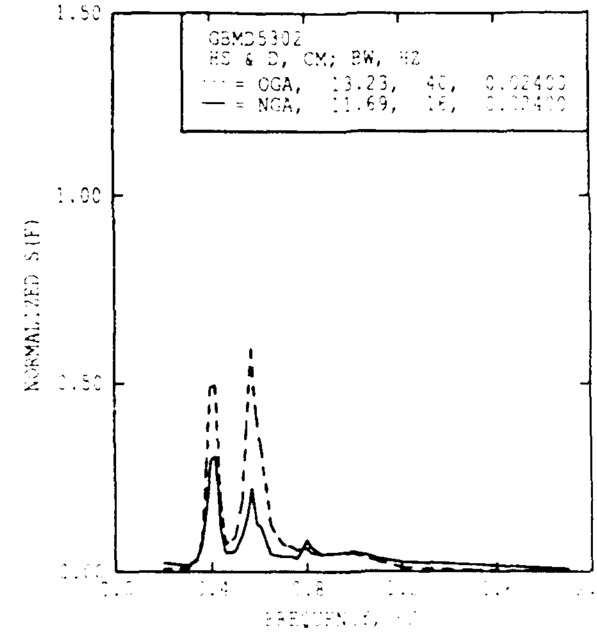
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = C

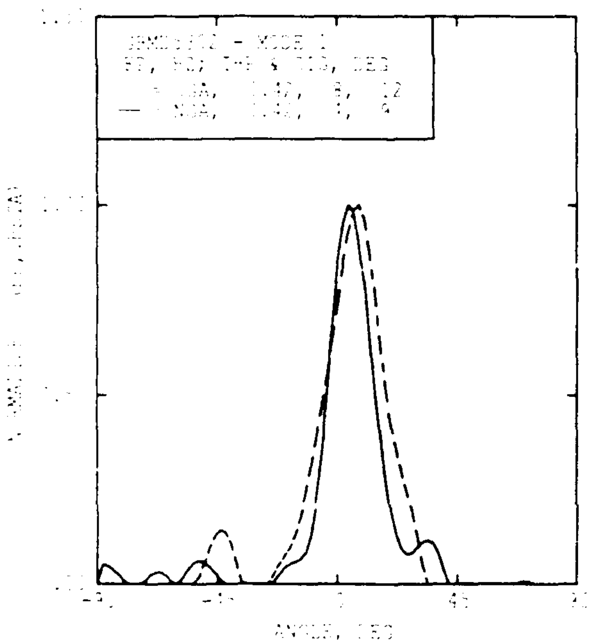


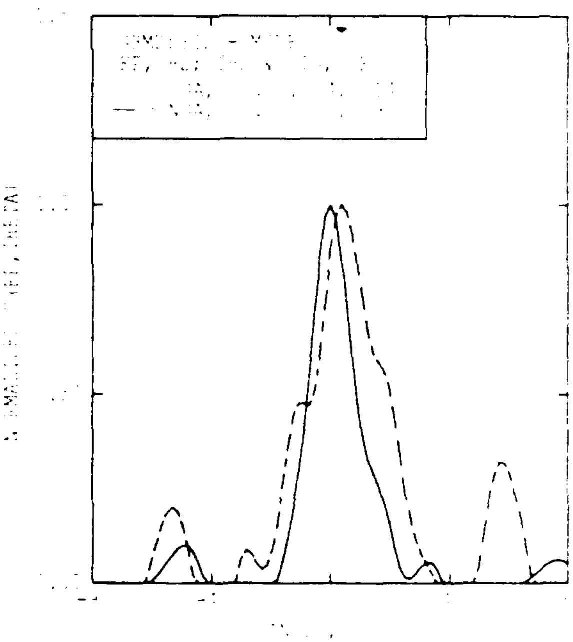
B) OGA VS. NGA SPREADING @ PEAK FREQ

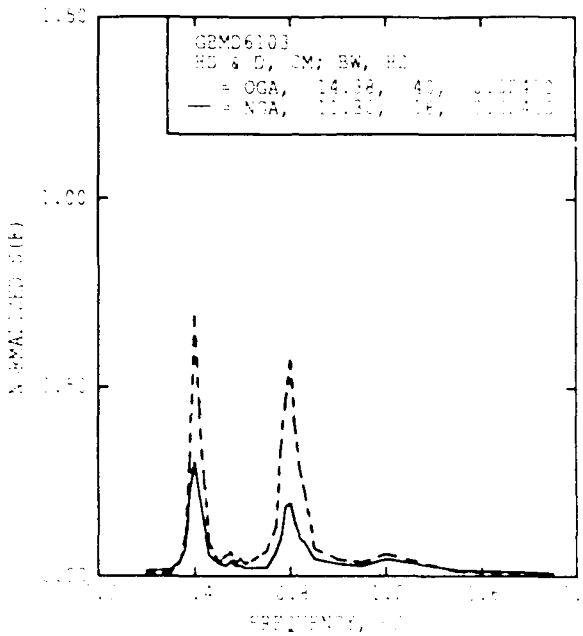


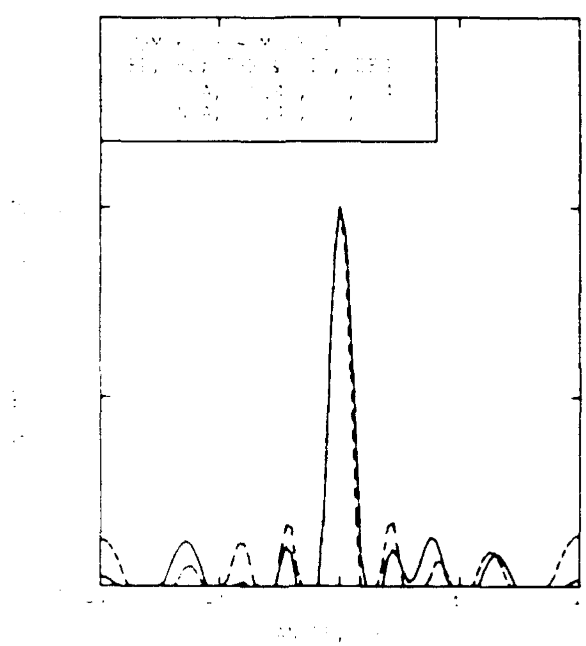
C) OGA VS. NGA SPREADING @ PEAK FREQ

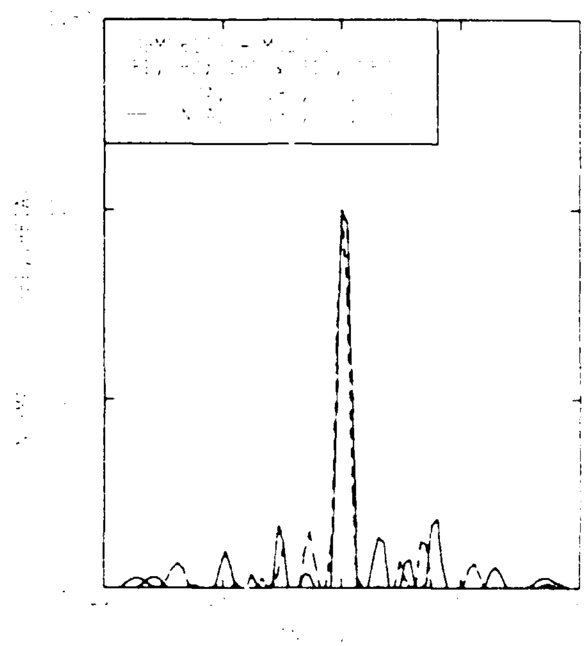

GBMD5302
HS & D, CM; BW, HZ
= OGA, 13.23, 40,
— = NGA, 11.69, 16,
NORMALIZED S(F)
1.50
1.00
0.50
0.4
0.8

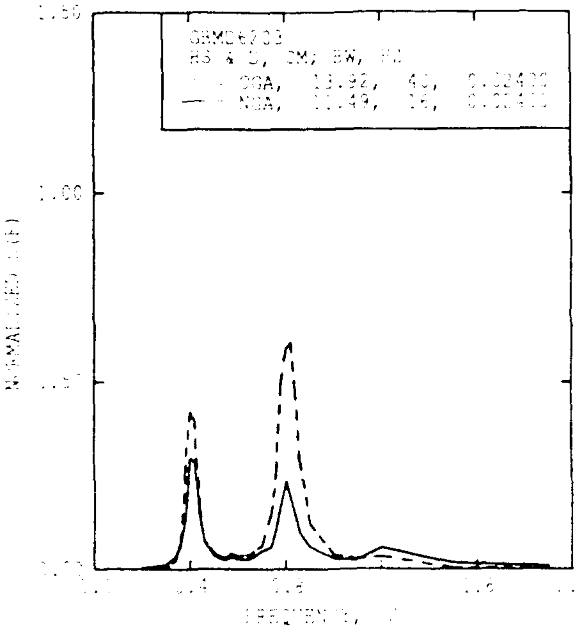

ANGLE, DEG

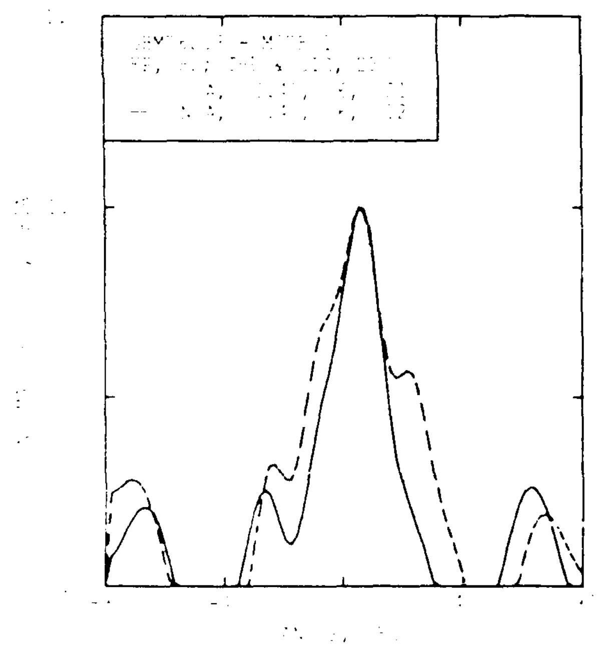


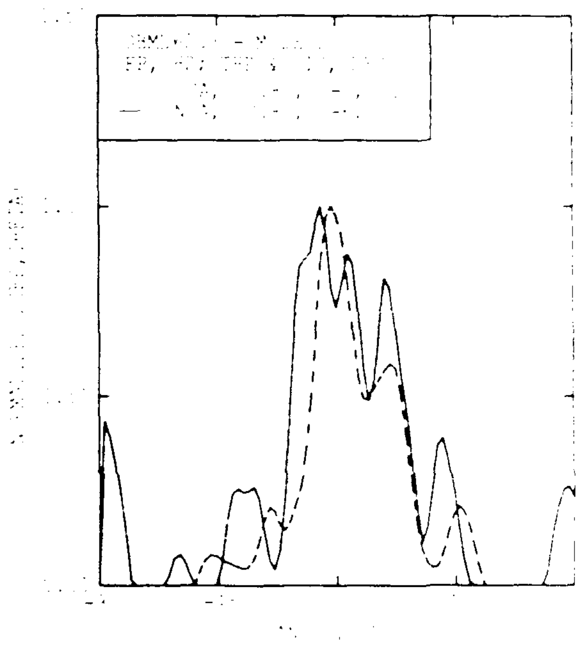

1.50
GBMD6103
= OGA, 14.38,

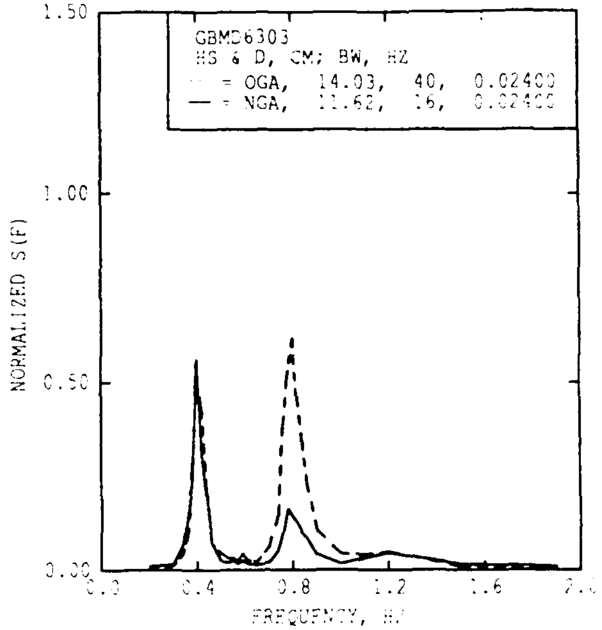




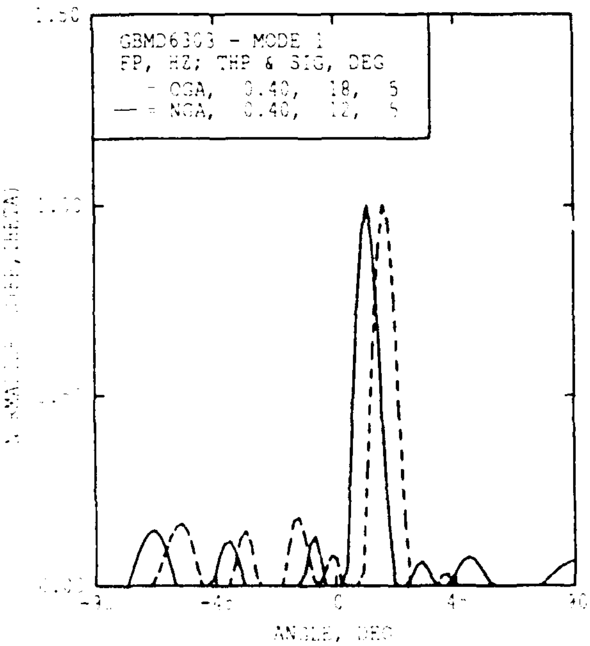

1.00
OGA, 13.92, 40,
NGA, 11.49,



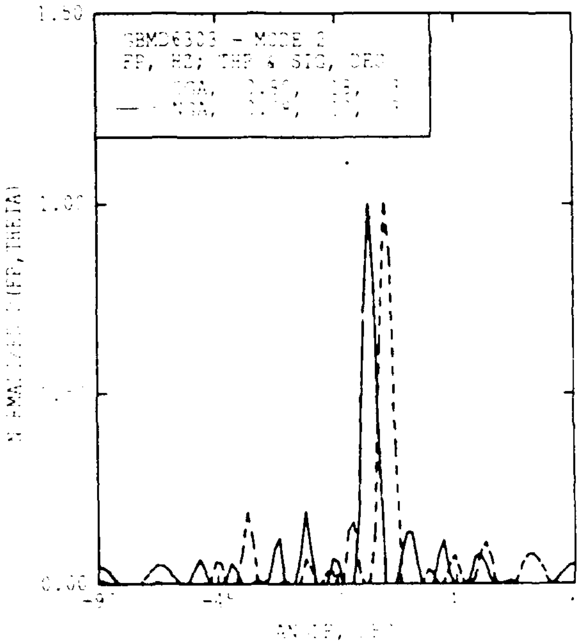




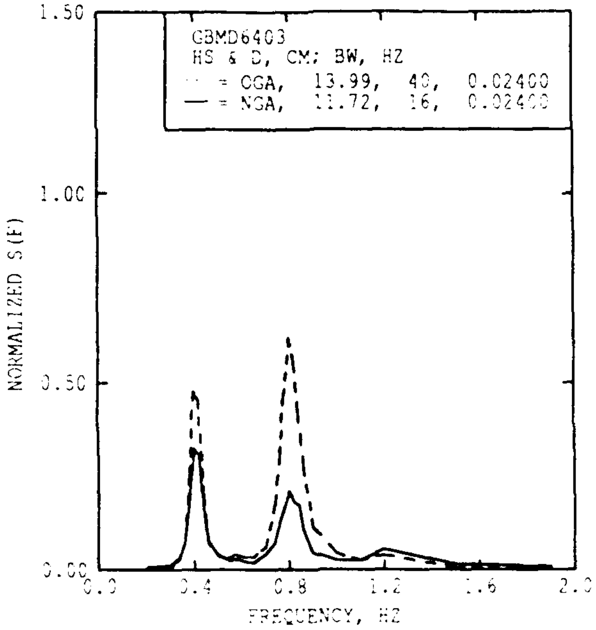
A) OGA VS. NGA FREQUENCY SPECTRA
DATA CODE B



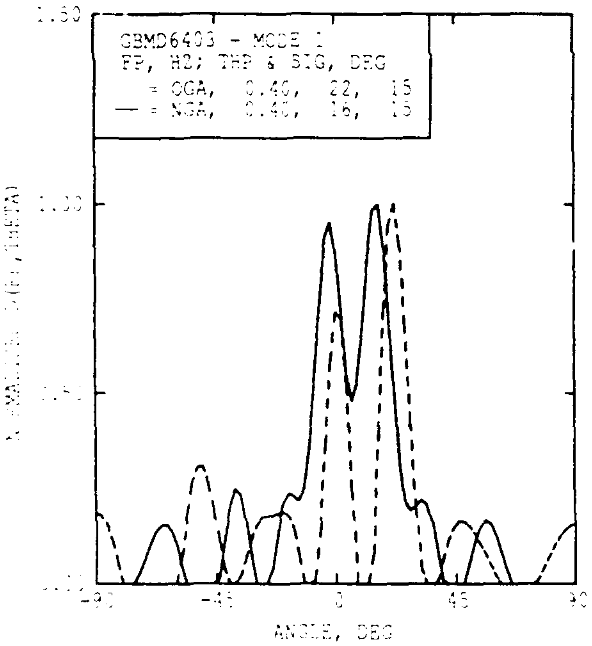
B) OGA VS. NGA SPREADING @ PEAK FREQ
DATA CODE B



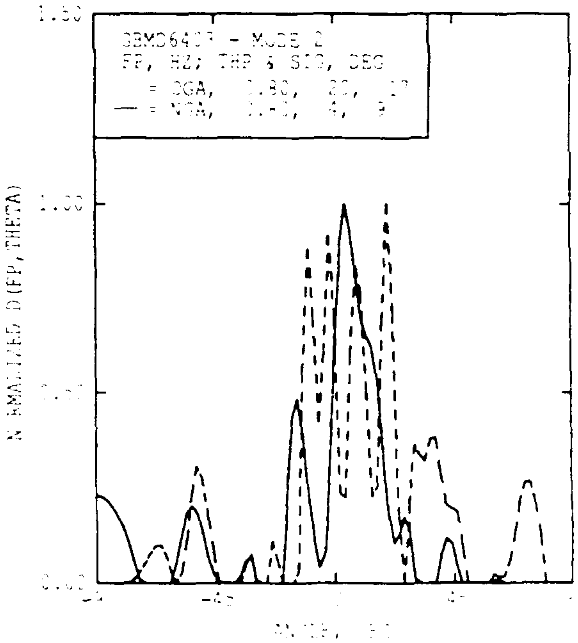
C) OGA VS. NGA SPREADING @ PEAK FREQ



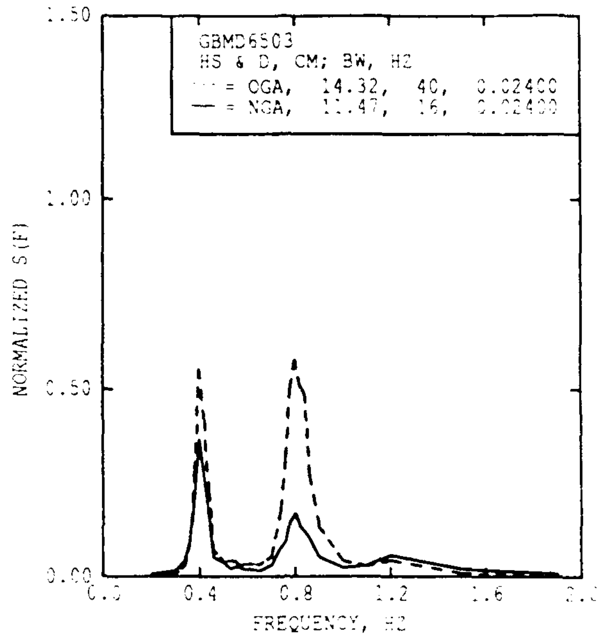
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE SIDE - B



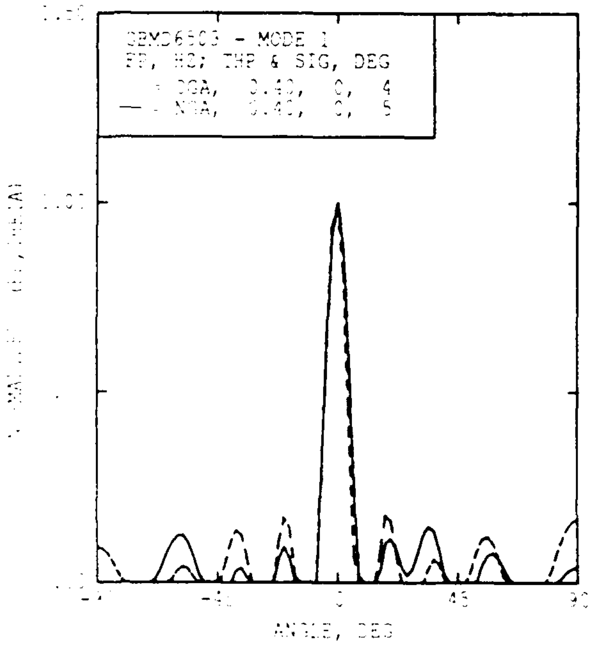
B) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE SIDE - B

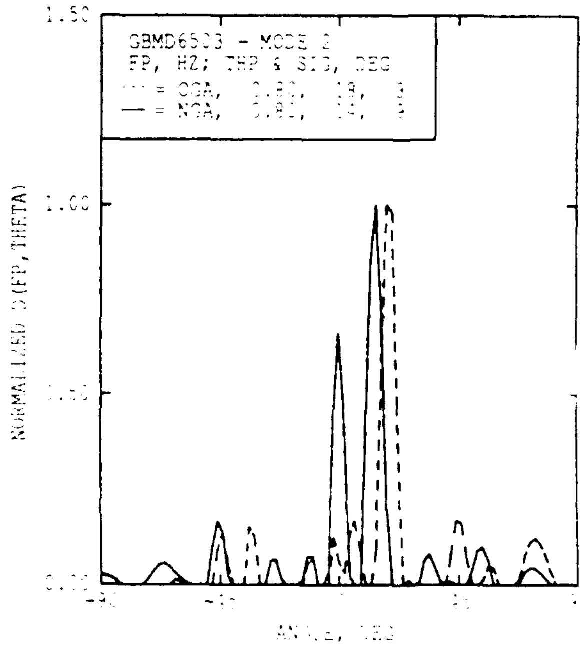


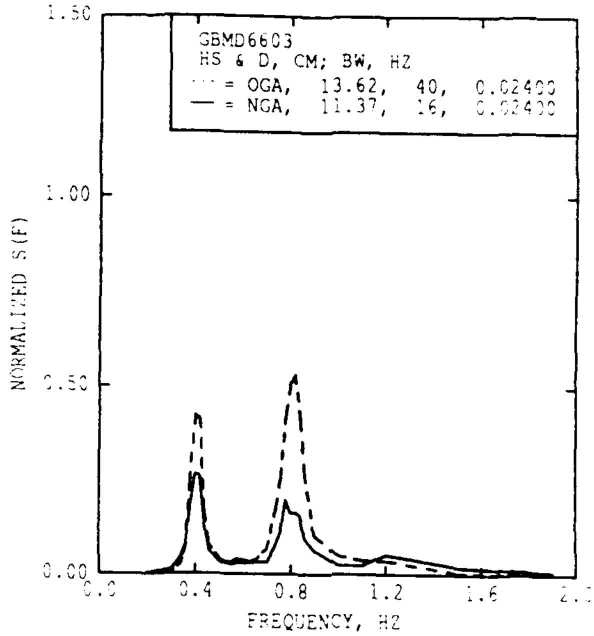
C) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE SIDE - B



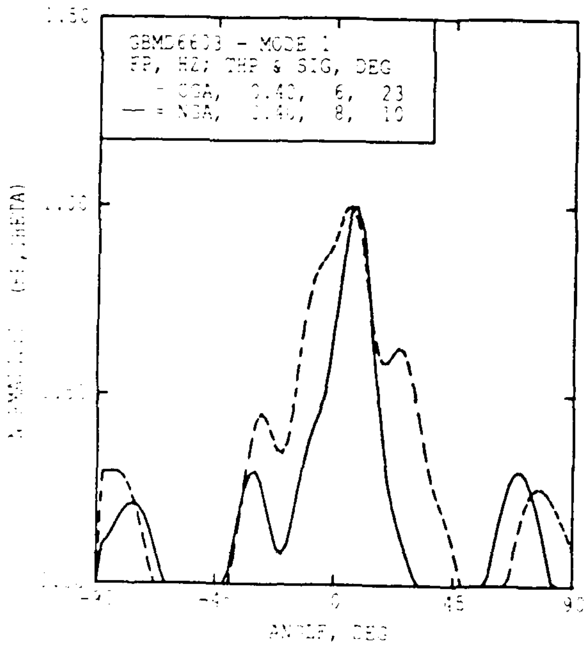
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = B

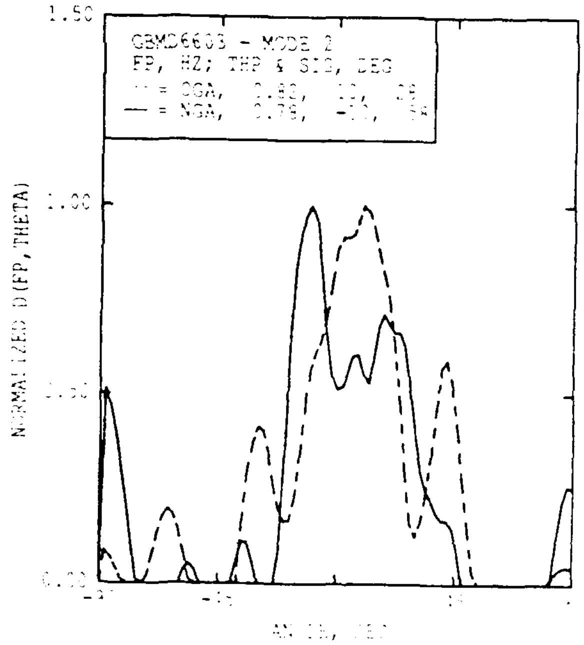


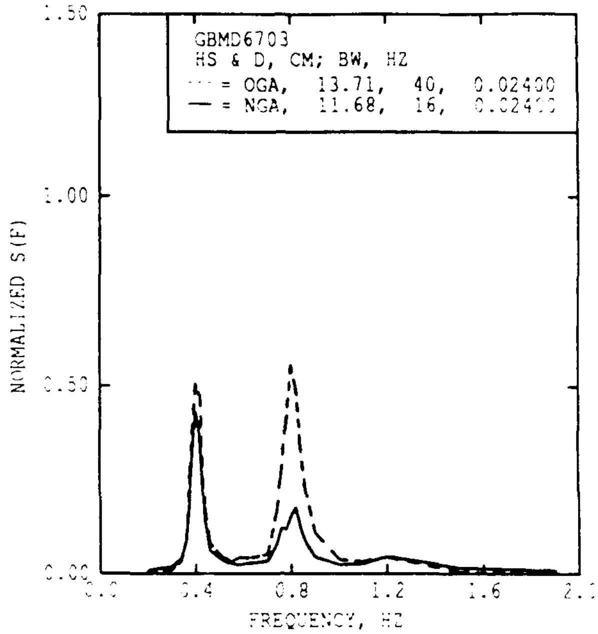




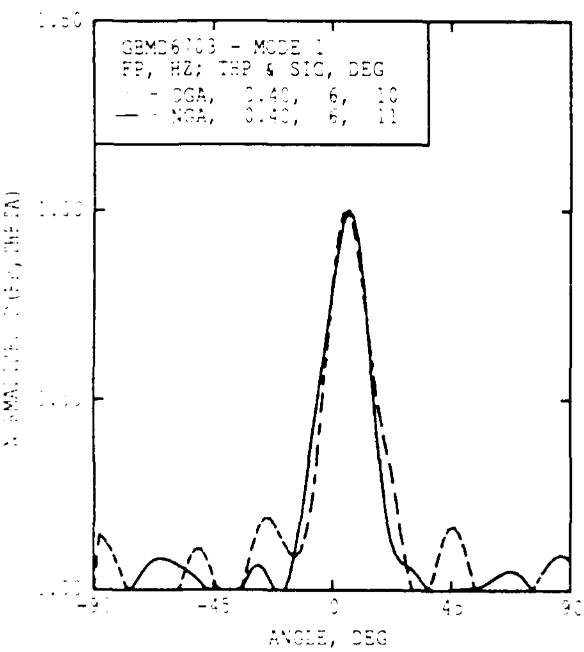
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = C



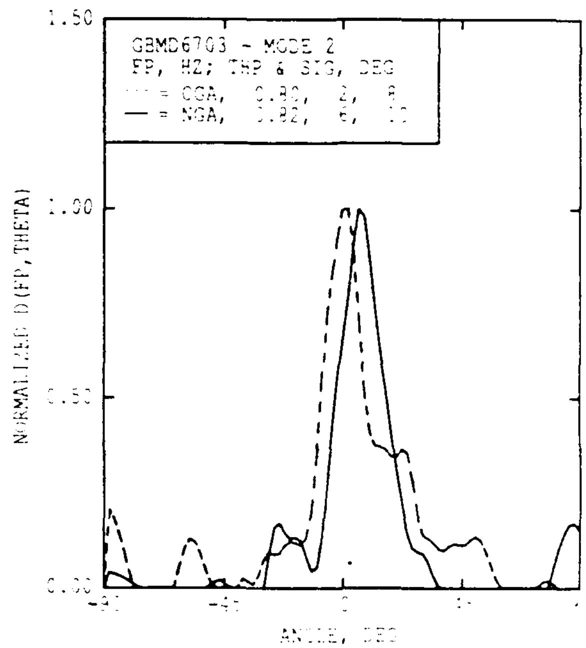




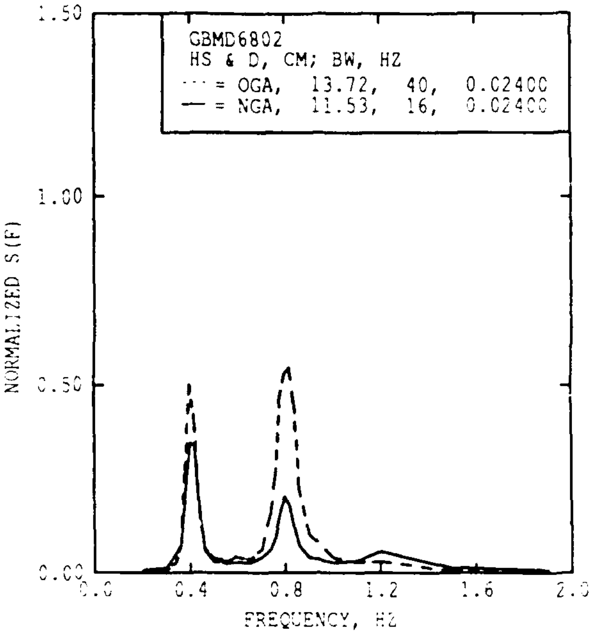
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = A



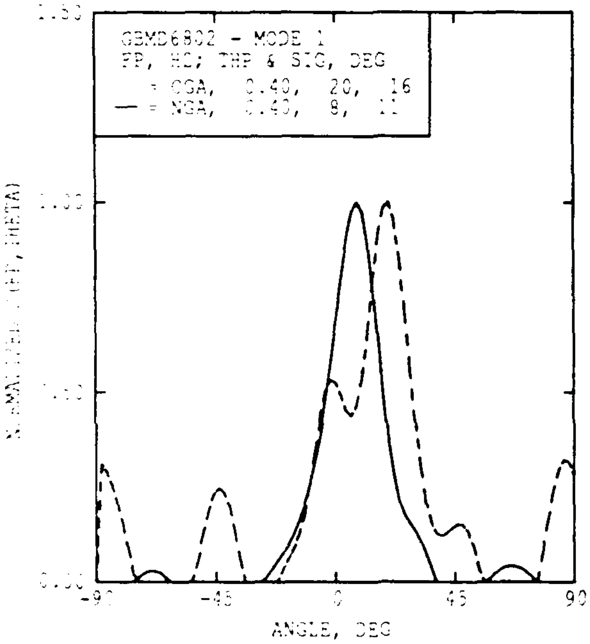
B) OGA VS. NGA SPREADING & PEAK FREQ
GAGE CODE = A



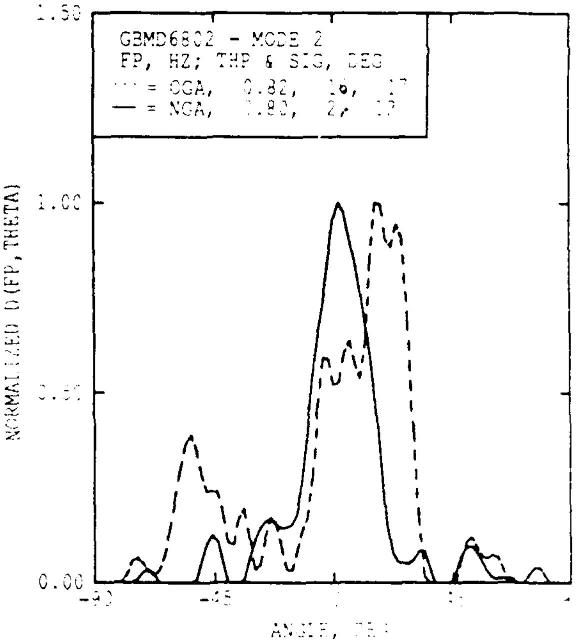
C) OGA VS. NGA SPREADING & PEAK FREQ
GAGE CODE = A



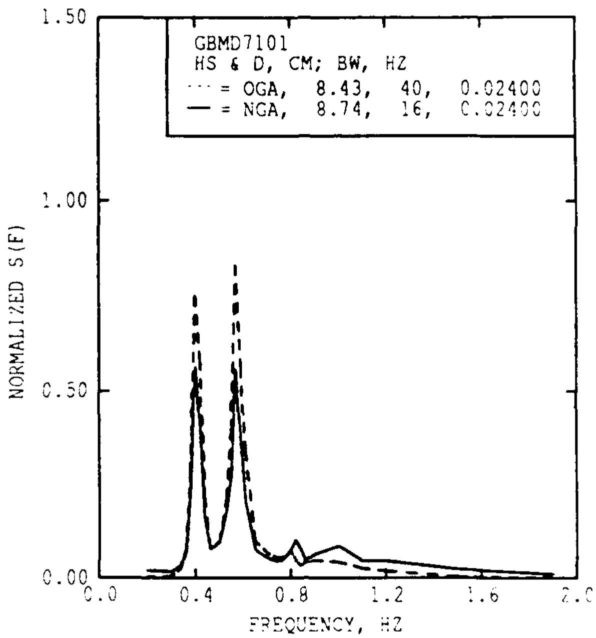
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = A



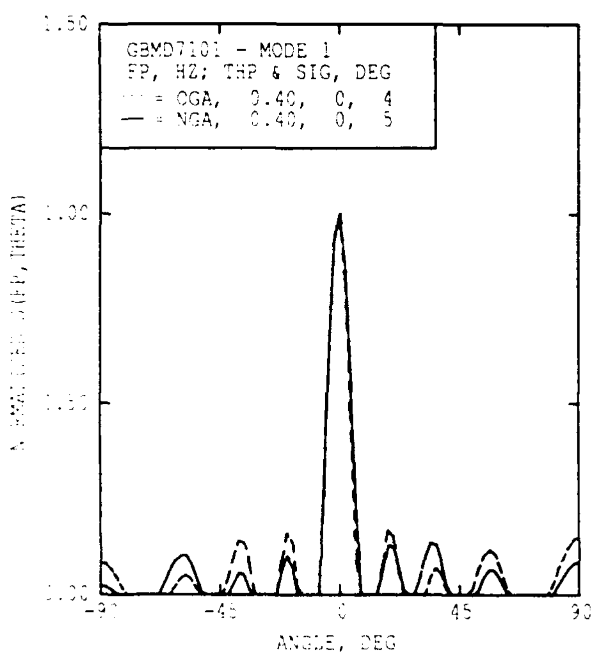
B) OGA VS. NGA SPREADING & PEAK FREQ
GAGE CODE = A



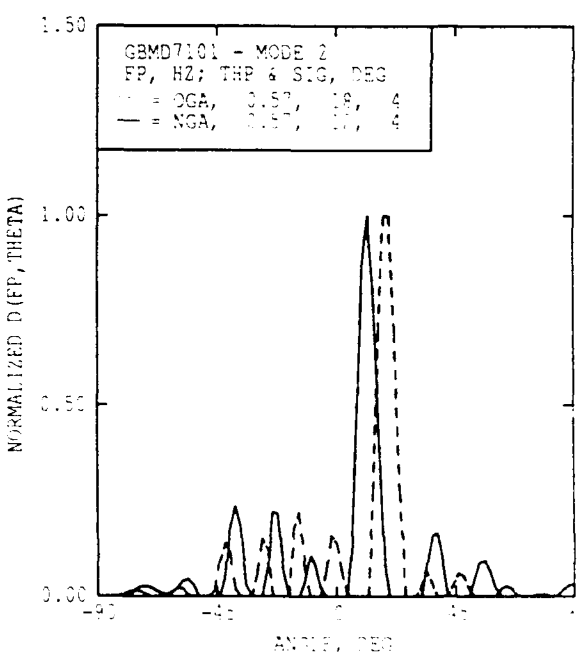
C) OGA VS. NGA SPREADING & PEAK FREQ
GAGE CODE = A



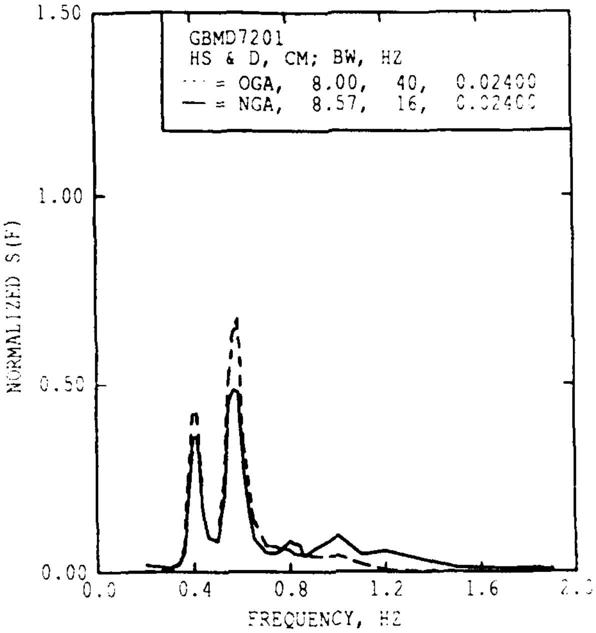
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = B



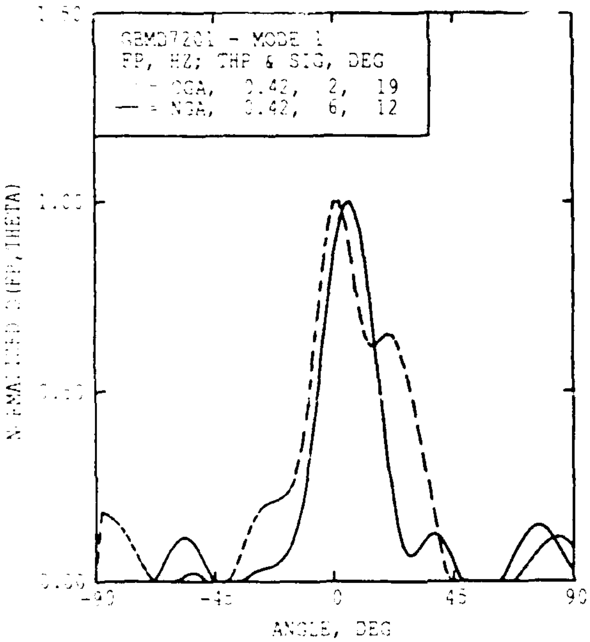
B) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = B



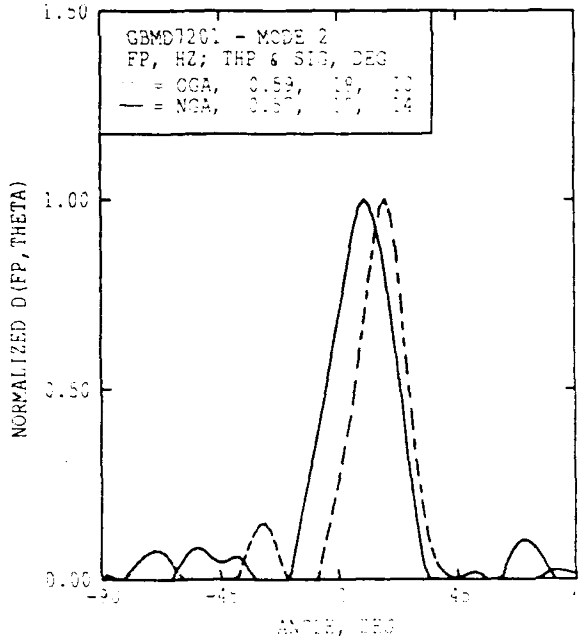
C) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = B



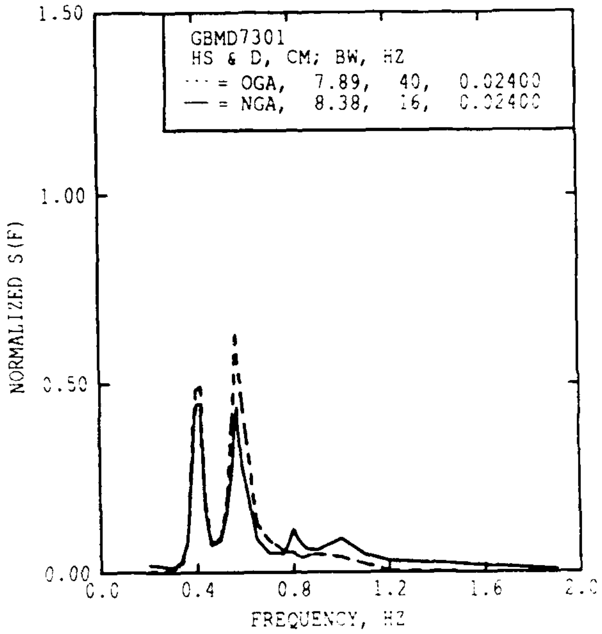
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = C



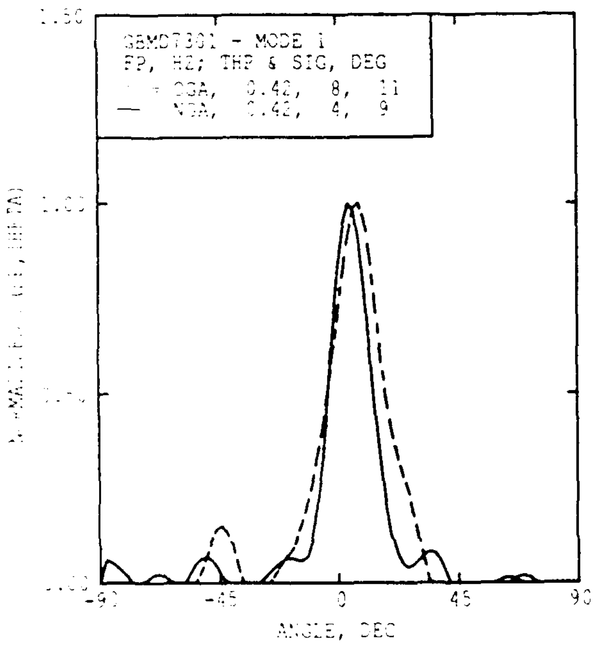
B) OGA VS. NGA SPREADING @ PEAK FREQ



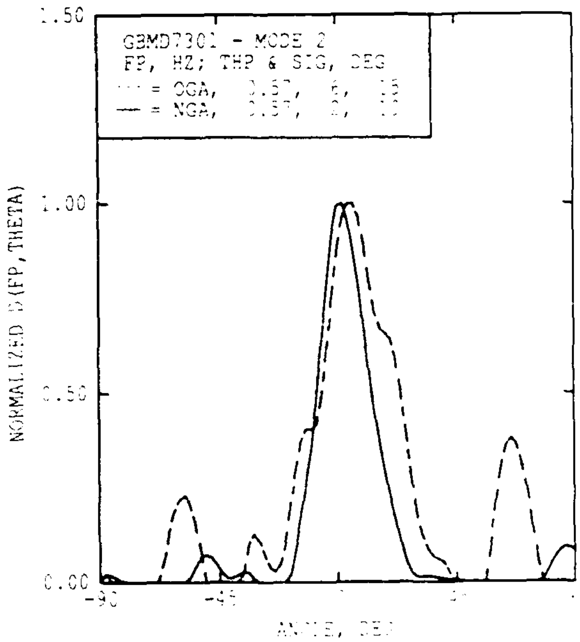
C) OGA VS. NGA SPREADING @ PEAK FREQ



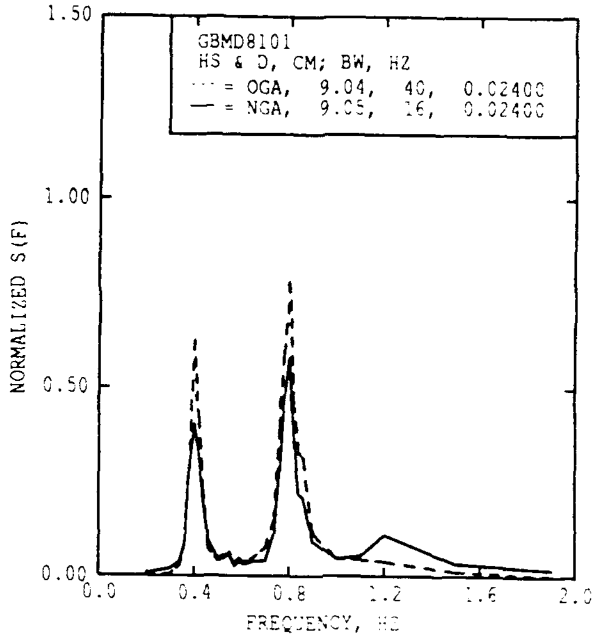
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = A



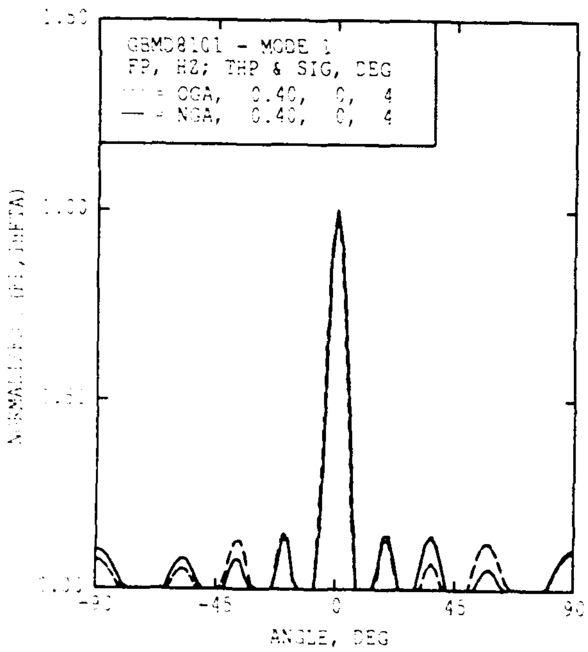
B) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = A



C) OGA VS. NGA SPREADING @ PEAK FREQ.
GAGE CODE = A



A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = B



B) OGA VS. NGA SPREADING @ PEAK FREQ
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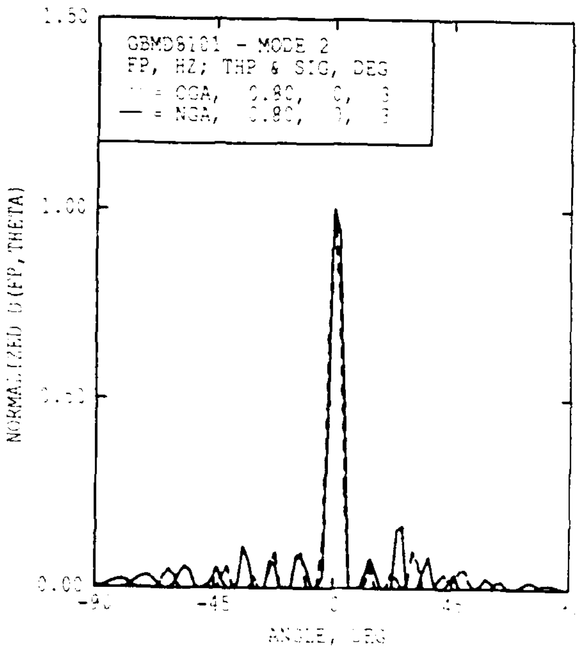
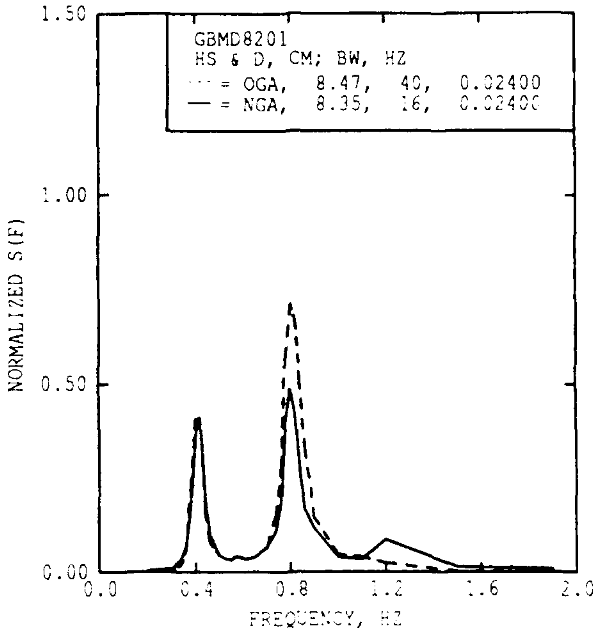
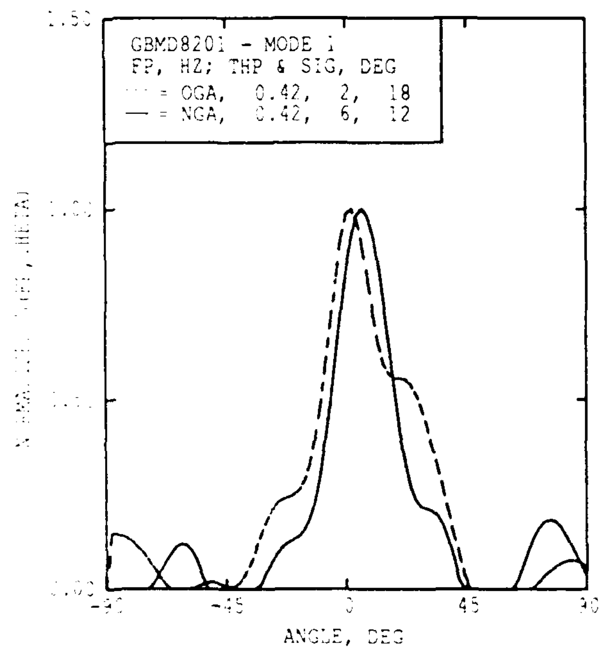


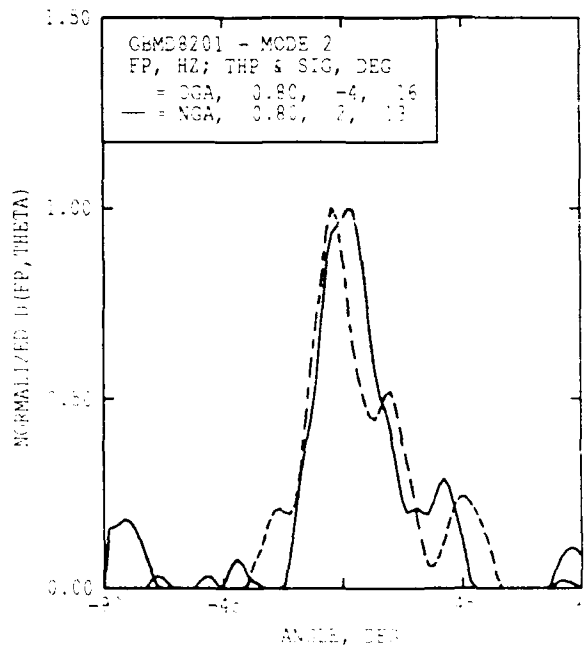
C) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = B



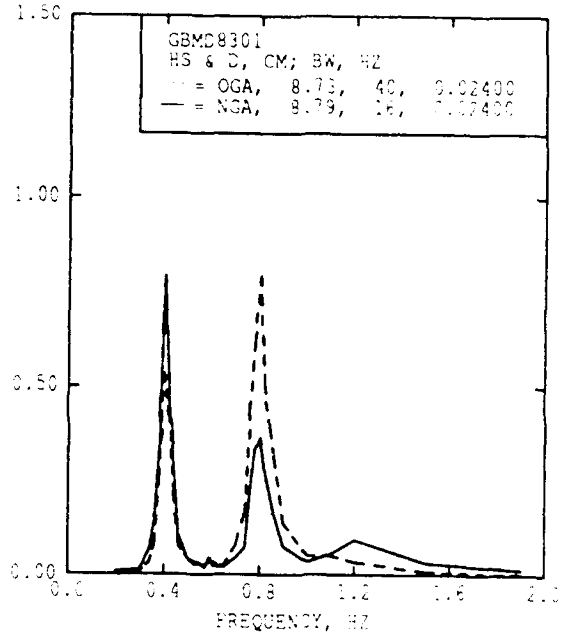
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = C



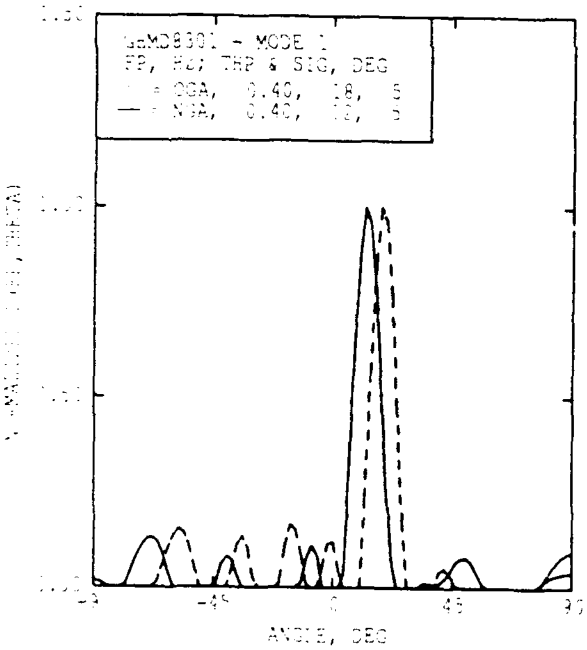
B) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = C

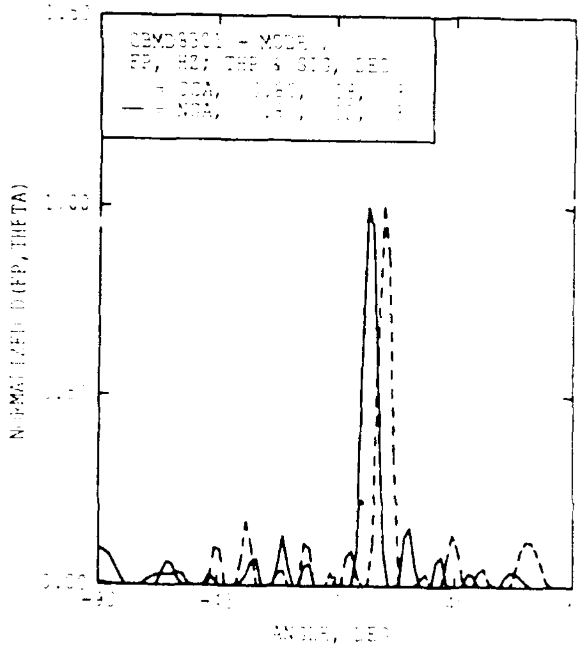


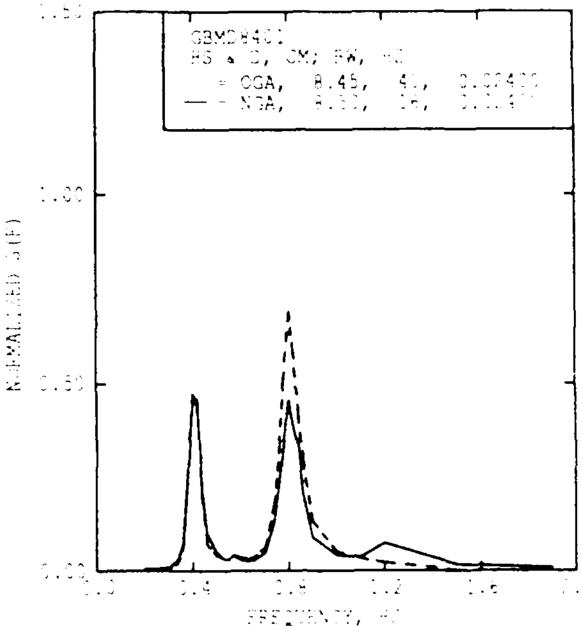
C) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE



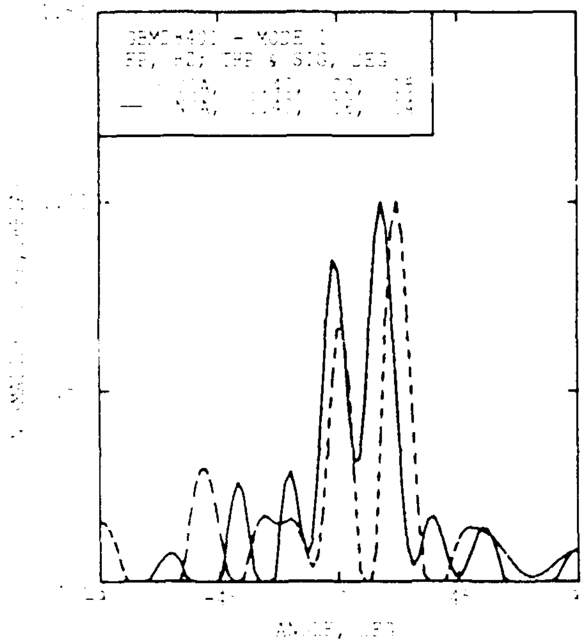
A) OGA VS. NGA FREQUENCY SPECTRA
RAGE CODE = B

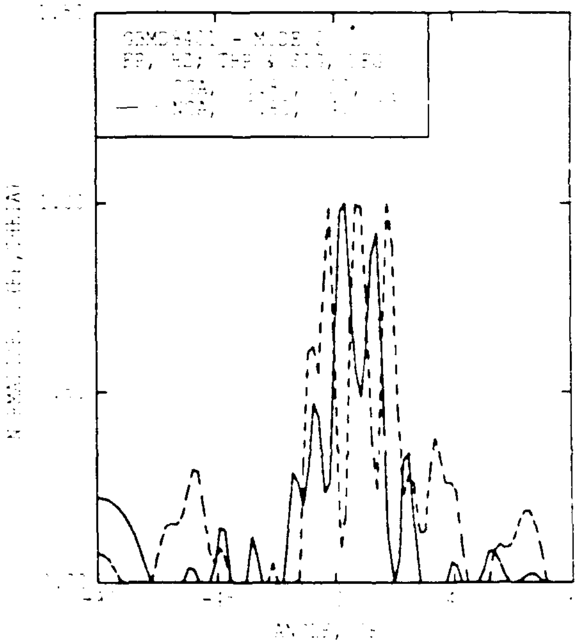


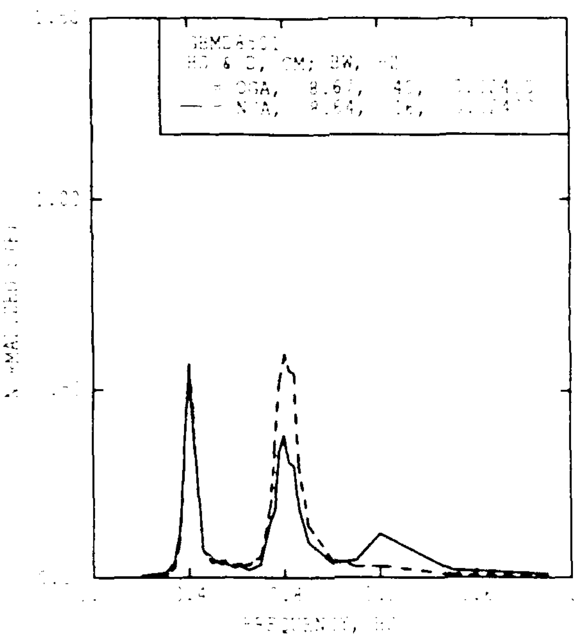


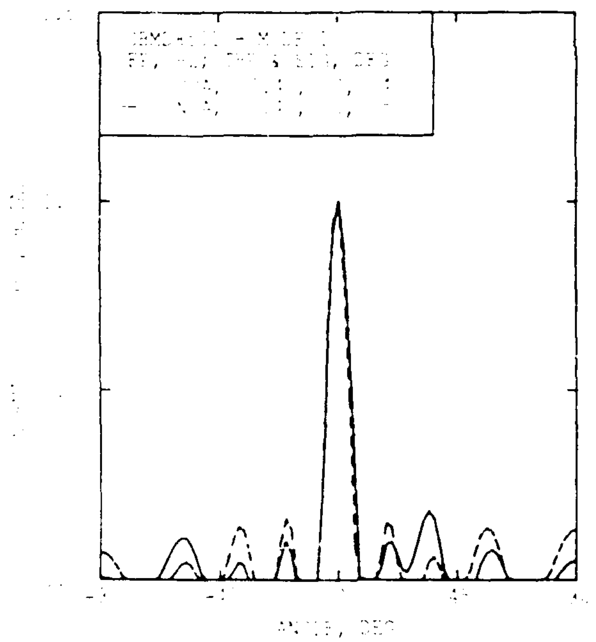


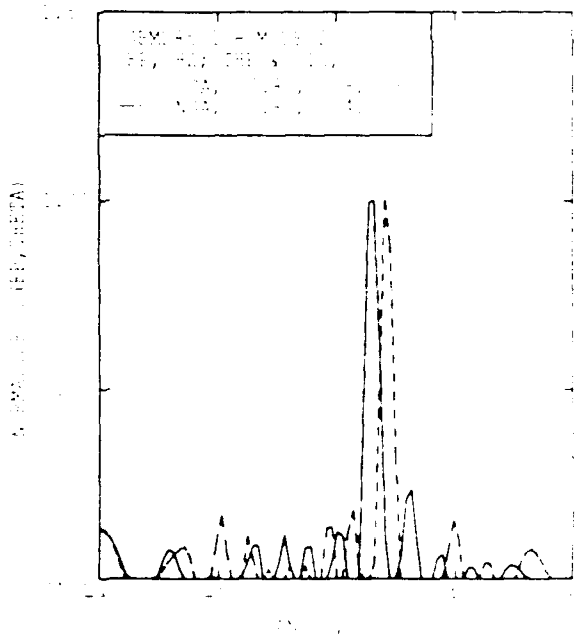
A OGA VS. NGA FREQUENCY SPECTRA

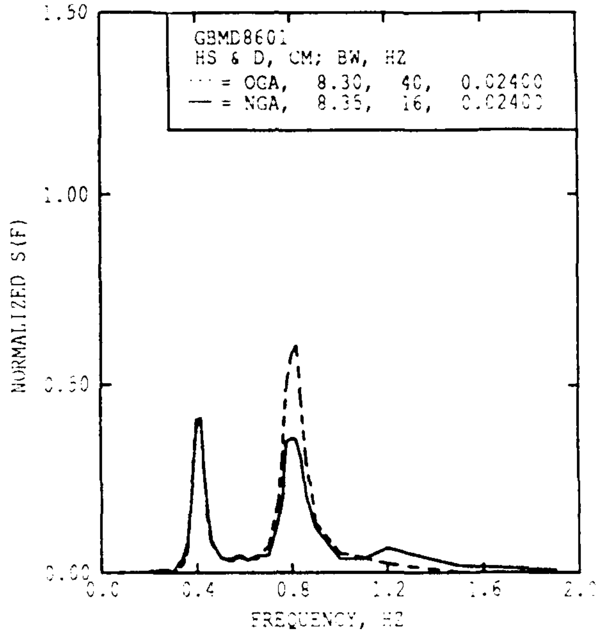




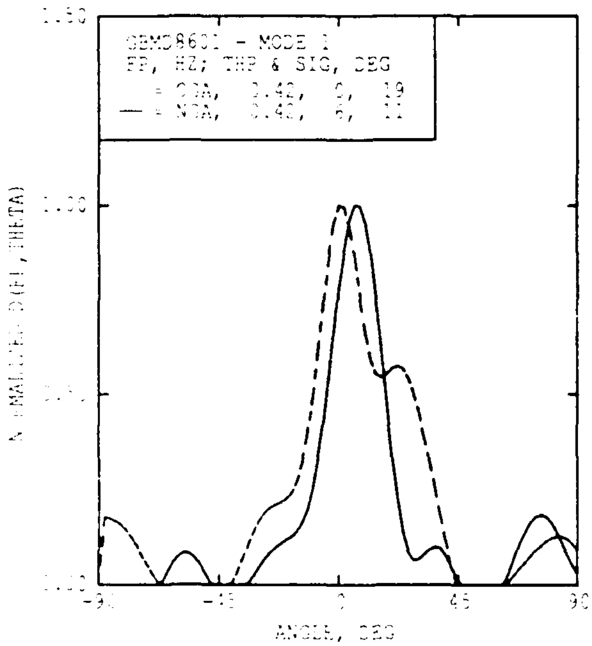




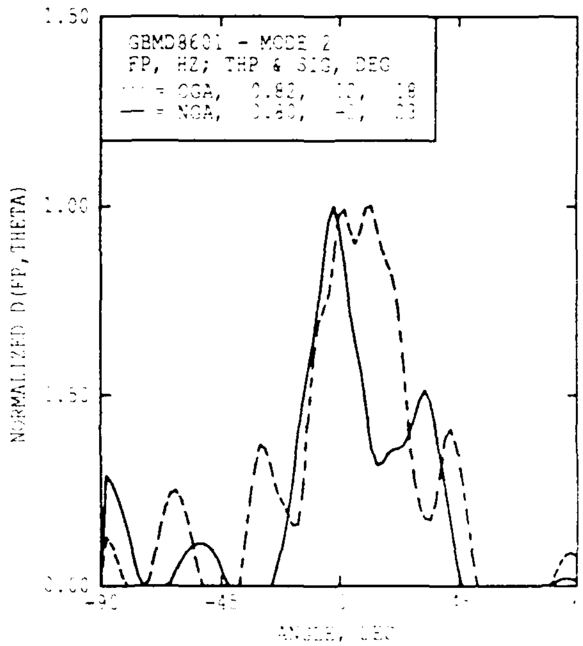




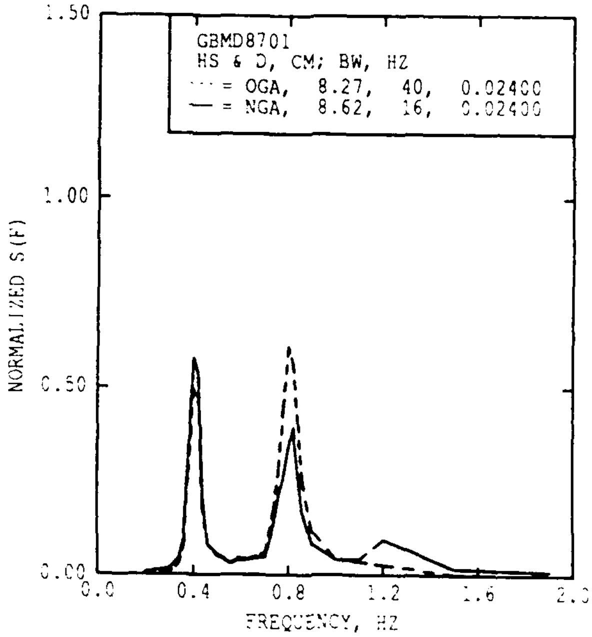
A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = C



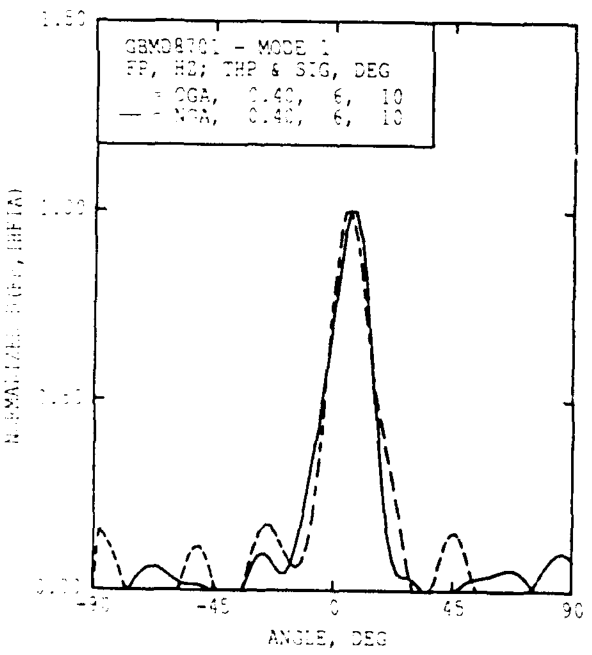
B) OGA VS. NGA SPREADING & PEAK FREQ.



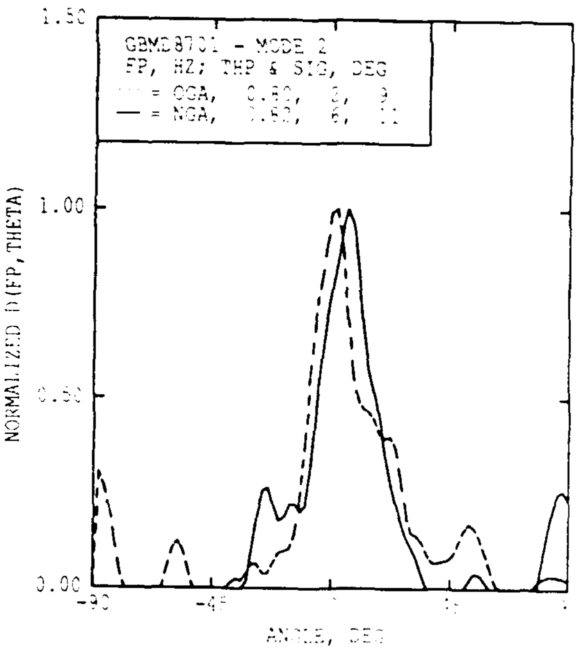
C) OGA VS. NGA SPREADING & PEAK FREQ.



A) OGA VS. NGA FREQUENCY SPECTRA
GAGE CODE = A



B) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = A



C) OGA VS. NGA SPREADING @ PEAK FREQ
GAGE CODE = A